

Introduction

by Tristanne Connolly

“The most delicious poem on earth”

“I send you the most delicious poem on earth. If you don’t know what it is all about, or why, at least you will find glorious similes about everything in the world, and I defy you to discover three bad verses in the whole stack.”¹ So wrote Horace Walpole, that exacting monitor of fashion, to Mary and Agnes Berry in 1789 when the first edition of *The Loves of the Plants* appeared (see Appendix 5.6). *The Loves of the Plants* might be most concisely described as an educational vegetable soap opera. It is a poetic dramatization of the Linnaean sexual system of botanical taxonomy, in the form of episodic romances starring personified pistils and stamens, accompanied by footnotes voluminous enough to constitute a parallel text in prose. But the poem is not structured according to the order of Linnaeus’s classes, and the verse episodes and notes often freely digress. The four cantos are broken up by Interludes of self-consciously staged dialogues on aesthetic theory between a “Bookseller” and a “Poet.” The text as a whole is surrounded by ample apparatus. At the front there is an Advertisement and a Proem, plus a Preface with an outline, verbal and pictorial, of Linnaean taxonomy. At the back, there are no less than three indexes, not to mention Additional Notes. And there is even more text beyond the text, a whole other half of a larger composite work. The title page announces *The Botanic Garden. Part II. Containing The Loves of the Plants*, which is confusing, since Darwin made the oddly illogical move of publishing Part II several years before Part I. Altogether, from a twenty-first century point of view, this may seem like a rather quixotic form of popular science writing. But *The Loves of the Plants* was a hit. All of the major and minor writers of the Romantic period

read it, and its influence can be traced in their works, from William Blake's *The Book of Thel* in 1789 to the blossoming of a whole sub-genre of botanic poetry by women in the early nineteenth century.² Formidable men of science also read *LOTP*, such as Joseph Banks (the British Library's copy of the 1789 edition belonged to him) and Erasmus Darwin's friends in the Lunar Society of industrialists, inventors and thinkers, including Josiah Wedgwood, James Watt, and Richard Lovell Edgeworth (who read it to his family, including Maria). Darwinian poetry became a thing, and *LOTP* was its first published manifestation, in many ways its epitome, and the easiest to characterize and satirize. *LOTP* is a good place for readers to start with Darwin's philosophical verse. Indeed, it is where his original audience started, and it remained the only substantial published example of Darwin's poetry for several years and decided his public literary character.

But by 1809 Byron could quip in *English Bards and Scotch Reviewers*, "The neglect of *The Botanic Garden* is some proof of returning taste" (see Appendix 5.19).³ And in 1818, Hazlitt could more seriously but no less dismissively confirm, "I have myself out-lived one generation of favourite poets, the Darwins, the Hayleys, the Swards. Who reads them now?"⁴ Through the nineteenth century, Erasmus Darwin continued (to paraphrase Oscar Wilde) to be talked about as not being talked about. In 1879, Darwin's grandson Charles wrote, "I have myself met with old men who spoke with a degree of enthusiasm about his poetry, quite incomprehensible at the present day [...] Notwithstanding the former high estimation of his poetry by men of all kinds in England no one of the present generation reads, it appears, a single word of it."⁵

What happened? The standard explanation is the one adopted by Charles: "the downfall of his fame" is the result of Darwin's verses being "quizzed" in parodies, most famously *The Loves of the Triangles* in *The Anti-Jacobin; or, Weekly Examiner* (1798; see Appendix 5.10).

Furthermore, Charles explains, “No doubt public taste was at this time changing, and becoming more simple and natural. It was generally acknowledged, under the guidance of Wordsworth and Coleridge, that poetry was chiefly concerned with the feelings and deeper workings of the mind; whereas, Darwin maintained that poetry ought chiefly to confine itself to the word-painting of visible objects.”⁶ Now that the simple naturalness of Romanticism, and the guidance of Wordsworth and Coleridge, have been thoroughly questioned and complicated, it is no longer possible to take for granted this basic sketch of Erasmus Darwin as a quaint outdated curiosity.

The idea that Darwinian poetry was taken down by witty mockery can mask some of the heavier motivations for parody (though the title of the government-supported *Anti-Jacobin* makes them clear enough). The counter-revolutionary reaction that developed over the course of the 1790s had repercussions not only including surveillance and censorship, but also what Katherine Binhammer has named the decade’s “sex panic.”⁷ Responses to the French Revolution represented political threats as sexual, and sexual threats as political, feeding “the ideological need to police and control the sexual practices of women.”⁸ And more broadly, Binhammer finds in the 1790s a “crystallization” of the cultural elements involved in the longer “transition from a pre-Enlightenment conception of sexuality to a bourgeois Victorian sexuality.”⁹ An additional factor that would intensify with the conservative backlash was the association of radicalism and science with atheism, a charge Charles defends his grandfather against, but still admits that though he “was certainly a theist in the ordinary acceptance of the term, he disbelieved in any revelation.”¹⁰ In a manuscript passage not included in the published biography, Charles asserts that after his death Erasmus Darwin was “grossly and often calumniated” because “he was unorthodox.”¹¹

Richard Lovell Edgeworth's prediction "that any clouds which have obscured Darwin's genius will pass away, and that it will shine out again" has gradually come true over the past half century, though on a smaller scale than the widespread "admiration of posterity" (see Appendix 5.21).¹² The revision of the canon, and the parallel rise of sexuality and science as preoccupations in Romanticism studies, have brought Erasmus Darwin back into the light. Adam Komisaruk and Allison Dushane produced the first critical edition of *The Botanic Garden* in 2017, a landmark achievement in furthering the recognition of Darwin in his literary, historical, and especially scientific context.¹³ Martin Priestman wrote in 2013 that "the traditional knee-jerk sarcasms at his expense [that] used to be thought mandatory" have decreased and "the old perception of him as a figure of fun has now been largely swept away" by studies that have given him "a much more respectable place on the cultural map."¹⁴ And in 2010 Julia List had questioned the "portrayal of Darwin's reception in the 1790s as a pattern of liberal acceptance followed by conservative rejection" and argues that "the evidence suggests" a "more consistently positive response."¹⁵ In light of these reconsiderations, the narrative of *LOTP* as highly fashionable then highly unfashionable becomes revealing in itself about the ways the cultural changes of the 1790s have been understood, both contemporaneously and retrospectively. The parodies, and other responses to Darwin's poetry over the decades following its initial popularity, are an index of the way writers of that time formulated, and tried to influence as well as reflect, the transformations of the Romantic period as they happened. *LOTP* functions as a touchstone, or a baseline measuring an earlier state, against which changing cultural attitudes and aesthetic tastes could be defined, through opposition but also through selective praise.

Jerome McGann has taken *LOTP* as an example of a kind of poetry we have forgotten how to read: "This happened because the twentieth-century critique of the sentimental tradition

[...] not only disappeared a large corpus of vital and important poetry, it obscured the conventions that supported such poetry.”¹⁶ “The poem is not an organic structure,” as Romantic ideology would teach us to expect.¹⁷ It is not only the several cantos of rhyming couplets and the viscosity of the verse that make it seem alien, but a disconnectedness of form and a strange pervasiveness of sensation which yet seems stilted in comparison to “the spontaneous overflow of powerful feelings.”¹⁸ But McGann finds in this devalued poetic tradition a radical “(con)fusion” of mind and body, and of the analytical and affective. In *LOTP* specifically, the prose “ground[s] the verse with analysis and empirical observation” while “the verse charges the scientific project with feeling and sensation.”¹⁹

LOTP comes from a scientific environment that has also been “disappeared,” where materialism and vitalism allowed natural philosophers to entertain the possibility of the soul’s materiality, which has the potential to radically reconfigure the relationship between mind and body, thought and feeling. It also involved the possibility that consciousness, agency, and desire might be shared, in lesser degrees, by the non-human world. And *LOTP* also tentatively but unmistakably puts forward theories of evolution that would become more pronounced in Darwin’s later works (see, for example, *LOTP* I:65n).²⁰ Such trains of thought obviously had religious implications as well. Edward Reed argues that Erasmus Darwin is a major representative of these directions of thought which went underground when the territory of metaphysics was fearfully ceded by science to religion in the nineteenth century.²¹

LOTP is a work that represents science before it was called science: it went under the names of natural history and natural philosophy, while the word “science” was more broadly defined as “knowledge.” Priestman points out that literature, also, had not yet “cut itself off from other writing” or opposed itself to science; it “still covered the whole field of ‘letters’, as in that

widespread eighteenth-century sharing of polymathic ideas known as ‘the republic of letters.’”²²

LOTP provides a detailed snapshot of that international circulation of knowledge, showing Darwin, like many other citizens of the “republic of letters,” not merely receiving information but actively participating in dialogue, testing and contesting others’ conclusions, and contributing to the advancement of knowledge. *LOTP* also shows the kind of information that was circulated. It is a compendium of current learning, and witnesses Darwin’s wide reading as well as his broad knowledge and curiosity. It attests too that involvement in science or literature was not professionally based or restricted by specialization. Darwin was a physician by profession, but his writing, information, and authority go far beyond the practice of medicine.

It is because *LOTP* is a work so much of its time, so much a culmination of earlier currents, that it chimed so resonantly with readers when it appeared, and for the same reason soon became an emblem of retro styles and attitudes, a target of ridicule for counter-revolutionary writers, and an other against which cultural changes could be defined. The points for which *LOTP* was praised and blamed often indicate what makes it fascinating now, as a voice from an alternative tradition illuminating current concerns: interdisciplinarity and the relationship between the arts and the sciences; the relationship between humans and nature; what it means to try to think the non-human, scientifically and imaginatively; gender roles, sexual diversity, and the status of gender and sexuality as natural or artificial; the relative value of the natural and the artificial; popular access to and participation in science; women’s science education; the relationship of art and science to revolution and empire; the possibilities of hybrid texts; aesthetic criteria as culturally determined and changing, in revealing ways, over time.

Genre

Darwin's poetry is part of a tradition that goes back to classical literature and enjoyed a rich flowering in the eighteenth century. Wide-ranging, various, and difficult to define, it is nonetheless a recognizable genre that could be labeled the didactic poem, the philosophical poem, or even more broadly, the long poem. It has its two main classical precursors in Virgil's *Georgics*, which gives practical instructions and advice on agricultural matters, and Lucretius's *De rerum natura*, which explains Epicurean philosophy and the workings of the universe.

Major examples of the eighteenth-century "English Georgic" include John Philips's *Cyder* (1708), Christopher Smart's *The Hop Garden* (1752), John Dyer's *The Fleece* (1757), and James Grainger's *The Sugar-Cane* (1764). Like *LOTP*, Dyer's poem, on the care of sheep and the wool trade, includes a poetic description of a spinning machine (*LOTP* II:85–104; Dyer III:291–302).²³ Rudolf Beck considers Dyer's poem an example of a subgenre, "industrial georgic," which tries to modify the ancient agricultural form to the demands of the early Industrial Revolution.²⁴ This subgenre also includes Richard Jago's *Edge-Hill* (1767), relevant to Darwin considering its Midlands location and praise of Birmingham's manufactures, and also in its venturing into other branches of science such as geology and optics. James Venable Logan, in an overview of *The Botanic Garden*'s antecedents, argues that the closest resemblance is to Grainger's *The Sugar-Cane*, especially for its extensive use of footnotes, though it is not known whether Darwin read Grainger.²⁵ A very important difference, though, is that Grainger seeks to contribute to knowledge of the world's vegetation from his position as a West Indian plantation manager; his practical advice covers the purchase and use of slaves.²⁶ While Grainger's poem reflects and supports his apologist stance on slavery, Darwin's poem emphatically voices the abolitionist cause in an explicit call to British leaders (*LOTP* III:433–62; see also *The Botanic Garden, Part I, The Economy of Vegetation* (1791) II:311–16). Darwin definitely read William

Mason's *The English Garden* (1772–1781), an English Georgic poem mentioned in the first Interlude of *LOTP* (p. 51). It turns the traditional agricultural focus of the genre toward the fashionable and aesthetic topic of landscape gardening.

Lucretius's poem never constituted a mainstream tradition in Christian Europe because of its challenges to religion, denial of life after death, insistence that creation came about because of random chance, explicitness about sex, and praise of the erotic power of Venus as the source of all life. It was translated into English only rarely and incompletely until Thomas Creech published his full, annotated translation, *Of The Nature of Things* in 1682. The Lucretian poem did not form as definite a genre as the Georgic. Rather, the example of Lucretius provided a basis for many eighteenth-century poets to combine science or philosophy with poetry in diverse ways, including hybridizing Lucretian and Georgic traditions. Some poets modeled works on Lucretius purposely to oppose him and defend religion, such as Richard Blackmore in his poem *Creation* (1712). The influence of Lucretius can be seen in attempts to explain all of creation and take on the universe in a didactic poem, as in Capel Lofft's *Eudosia: or, a Poem on the Universe* (1781) and Henry Brooke's *Universal Beauty* (1735). Though *LOTP* liberally strays from its ostensible botanical focus with a digressiveness typical of philosophical poetry, it is not as ambitiously cosmic in scope as Part I of *The Botanic Garden*, *The Economy of Vegetation*, or Darwin's other four-canto philosophical poem, *The Temple of Nature* (1803). A reviewer of Anna Seward's *Memoirs of the Life of Dr. Darwin* (1804) gets close to accusing Darwin of plagiarizing *Universal Beauty*, except that the "obscurity and neglect" of the poem made the reviewer, who did not know the name of its author, believe it unlikely that Darwin would have read it.²⁷

Blackmore, like Darwin, is among the significant number of writers of eighteenth-century philosophical or didactic poems who were physicians. Some, unlike Blackmore or Darwin, made

medicine the main focus of their verse. For instance, Hugh Downman's *Infancy* (1774–1776) instructs on the healthy care of babies and small children, including such subjects as breastfeeding and smallpox inoculation. John Armstrong's *The Art of Preserving Health* (1744) gives, in each of its four books, advice on “Air,” “Diet,” “Exercise,” and “The Passions” (four of the six “non-naturals” or non-innate things affecting health in Galenic medicine). Armstrong also wrote a controversially explicit sex manual in verse, *The Oeconomy of Love* (1736), which, like the more respectable *Art of Preserving Health*, was often reprinted. Grainger made a point in his “West-India georgic” to include “many indigenous remedies [...] of such amazing efficacy” which “deserve to be universally known”, in which recommendations, “I beg leave to be understood as a physician, and not as a poet” (p. vii). Mark Akenside infused medical and scientific knowledge into his philosophical poem, *The Pleasures of the Imagination* (1744), especially the embryology on which he wrote his thesis. As Darwin mentions in *LOTP* Interlude II (p. 95), Akenside makes specific reference to Lucretius in a rewriting of his famous scene of viewing a shipwreck from afar, safely on land (Lucretius II:1–5; Akenside II:693–711, II:157n.).

Two of the most widely-read eighteenth-century philosophical poems, which also, like Darwin's verse, later became remarkably unread, are James Thomson's *The Seasons* (1726–1730) and Edward Young's *Night-Thoughts* (short for its impressive full title, *The Complaint; or, Night-Thoughts on Life, Death and Immortality*) (1742–1745). While Thomson's poem includes scientific and agricultural material as part of its rich and evocatively symbolic description of landscape and rural life, Young's is “a georgic for the soul” offering spiritual advice, and is vulnerably autobiographical in its representation of the poet's grief over the deaths of his wife, stepdaughter, and friend.²⁸ A third long poem that passed from major to minor status is William Cowper's *The Task* (1785), which comes closest to the Georgic tradition in its third

section, "The Garden," but also partakes of genres such as mock epic, and, like Young, autobiography.

What most sets Cowper apart from other philosophical poets is his plain language. In this he is the polar opposite of Darwin, whose ornate style differs also from Thomson's and Young's Miltonic inheritance. Anna Seward reports that Darwin did not like Cowper's *Task* very much, for its "prosaicism" and its "rough and slovenly style," and also "maintained a preference of Akenside's blank verse to Milton's; declared that it was of higher polish, of more classic purity, and more dignified construction." Even in his style, then, Darwin purposely chooses what would very soon become unfashionable. Most noticeably, the poetic form he chooses is the "diction-packed" and "rigorously end-stopped Popeian heroic couplet," which would soon "die" from the disdain for it expressed by Cowper and by William Wordsworth.²⁹ Though the heroic couplet is such a characteristically eighteenth-century form, it is conspicuously absent from the characteristically eighteenth-century genre of the philosophical poem. Seward's reviewer may be forgiven for suspecting Darwin of plagiarism considering that Brooke and Blackmore were of the very rare few who wrote such poems in couplets; all of the other examples mentioned here are in blank verse. A major exception is Alexander Pope, whose name is after all synonymous with the perfection of the heroic couplet, but the form he uses for philosophical poems such as *Essay on Man* (1733–1734) draws on another classical model, Horace's *Epistles*, which tend more toward philosophical and especially ethical subjects, and less toward dissemination of scientific knowledge. Another poet mentioned by Darwin in *LOTP*, William Hayley, wrote a series of poetical essays in heroic couplets, all on subjects in the arts and addressed to artists and writers, including William Mason to whom he addressed *An Essay on Epic Poetry* (1781). Pope's philosophical poems, being epistles, also have named addressees. And Lucretius has his

Memmius and Young his Lorenzo, who are charged to learn from the poems. It is interesting to notice how *LOTP* differs in its use of the addressee. The prose dialogue in the Interludes is between Poet and Bookseller (rather than philosopher and student as in Plato's philosophical dialogues, for example). In the verse, the speaker of the body of each canto is the Botanic Muse, and the addressee is Nature itself, as the stream, wind, and leaves are exhorted to be quiet and insects are called to listen (I:21–38).

Priestman suggests that all the “other most celebrated examples” of didactic poetry are in blank verse because it “giv[es] the feeling of a kindly instructor gently leading the reader from one idea to the next and not straying too far from the prose in which those ideas might normally be expressed.”³⁰ Among the major differences Logan finds between Darwin and his predecessors in philosophical poetry is that there is simply more science in Darwin's poems, and it is more detailed, accurate, and cutting-edge.³¹ This only makes his choice of couplets and ornamental language seem all the more strange. Discussing didactic poetry in the first Interlude of *LOTP*, the “Poet” opines that “Science is best delivered in Prose, as its mode of reasoning is from stricter analogies than metaphors or similes.”³² Darwin himself appears to subordinate poetry to prose, as in the opening of the Advertisement to *LOTP* which states his intention to “lead” readers “from the looser analogies, which dress out the imagery of poetry, to the stricter ones, which form the ratiocination of philosophy,” and in *A Plan for the Conduct of Female Education* where he recommends reading the notes of *LOTP* and considers the verses optional (see Appendix 3.2).³³ Recent studies of Darwin, however, have found that in practice there is an essential, dynamic relationship between verse and notes, poetry and science, in his works.³⁴ Darwin's choice of an extremely poetical diction and verse form serves what Dahlia Porter sees as his purpose in bringing poetry and prose together: calling attention to their difference and valuing

poetry as “a science in its own right—a field of knowledge with its own style.”³⁵ For Priestman, the self-containment and speed of the end-stopped couplet actually make it “the perfect vehicle for moving rapidly between diverse fields of knowledge,”³⁶ contributing not only to the multidisciplinary agility of Darwin’s poetry, but also to its aesthetic of multiplicitous scenes, its analogical juxtapositions, and its overwhelming effect.

Priestman describes Darwin as having brought the didactic tradition “at once to a climax and an end” and observes that he was writing his last poem, *The Temple of Nature* (published posthumously in 1803), “just as Wordsworth produced the *Lyrical Ballads* Preface, with its announcement of the imminent divorce between the poet and the man of science.”³⁷ The grounds for this divorce were generic as well as disciplinary. As Anna Barbauld puts it in the introductory essay to her 1794 edition of Mark Akenside’s *The Pleasures of Imagination*, “Didactic, or preceptive Poetry, seems to include a solecism, for the end of Poetry is to please, and of Didactic precept the object is instruction.”³⁸ But from its beginnings the didactic tradition addressed this disjunction and deliberately brought the two purposes together. Lucretius twice repeats the (very botanical) image of sweetening a cup of medicinal wormwood with honey around the rim to “beguile” not “betray” (“deceptaque non capiatur”) children into drinking it and regaining health. In just such a way, Lucretius says, he puts forward his doctrine touched with the sweet honey of the Muses.³⁹ Barbauld considers it the “office” of the didactic poet to “throw a lustre” on those aspects of the topic “as are most susceptible of poetical ornament” and this “*art* of the Poet becomes itself a source of pleasure.”⁴⁰ She holds up as a shining example a passage from *LOTP*: “Who does not admire the infinite art with which Dr. DARWIN has described the [spinning] machine of Sir Richard Arkwright. His verse is a piece of mechanism as complete in its kind as that which he describes.”⁴¹ Ironically, the very Romantic ideal of organic unity of form and

content is applied here to “a piece of mechanism.” For Barbauld, success in didactic poetry seems to require overcoming didacticism itself. Counterintuitively, she recommends,

Whoever [...] reads a Didactic Poem ought to come to it with a previous knowledge of his subject; and whoever writes one, ought to suppose such a knowledge in his readers. If he is obliged to explain technical terms, to refer continually to critical notes, and to follow a system step by step with the patient exactness of a teacher, his Poem, however laboured, will be a bad Poem.⁴²

The rejection of the didactic has been considered synonymous with Romanticism, as David Duff observes, even though the major Romantics indulged often enough in “moralizing in verse.”⁴³ Darwin is at odds with this moralizing aspect that lived on after didacticism’s fall from fashion. He does not combine, let alone replace, scientific with moral instruction; Dahlia Porter finds that his verse “does not overtly propound an ethical system or theological position.”⁴⁴ What he does occasionally propound is messages of liberty, such as the passages in *LOTP* on prison reform and the abolition of slavery, given emphatic place at the ends of cantos (*LOTP* II:439–72, III: 419–68). Didactic poetry incorporating radical politics, sexual liberation, and challenges to established religion met with adverse reactions in the case of Richard Payne Knight, who is sometimes paralleled with Darwin.⁴⁵ Knight had published his rather explicit prose work on sexual symbolism in religion, *An Account of the Remains of the Worship of Priapus*, in 1786. He later entered into, and politicized, the debates on the picturesque with his poem *The Landscape* (1794). His historico-political poem *The Progress of Civil Society* (1796) was skewered by the *Anti-Jacobin* in the parody *The Progress of Man* (1798).⁴⁶ This mock didactic poem was credited to the imaginary Mr. Higgins, also the supposed author of *The Loves of the Triangles*.⁴⁷ The fact that Knight (and Mr. Higgins) chose heroic verse supports Priestman’s point that the speed and

self-containment of couplets is also advantageous for controversial content: the reader has “swallowed an elephant” before they know it.⁴⁸

Composition

A further reason why *LOTP* was already retro when it came out in 1789 is that Darwin had been working on it since the mid-1770s. And it seems that Darwin was working on, or at least working towards, *LOTP*'s companion poem, *The Botanic Garden Part I: The Economy of Vegetation*, as well as his prose work, *Zoonomia* (1794–1796), over roughly the same time period.⁴⁹ From its first appearance, *LOTP* was presented as part of a larger whole, being labeled “The Botanic Garden Part II” even though it came out on its own, in three editions, before the publication of Part I, *The Economy of Vegetation*. The interim was not short: though dated 1791, *The Economy of Vegetation* was actually published in June 1792, just over three years after the first edition of *LOTP* in April 1789.⁵⁰ The two parts, then, have always been joined yet disconnected. The presence of Part I was visible in Part II from the start, not only in the numbering itself, but also in the Advertisement, and in cross-references in Part II's notes to the not-yet-existent Part I.

According to Anna Seward, the inspiration for *LOTP* came from the real botanic garden that Darwin began to create “about the year 1777.”⁵¹ On her first visit to the garden, she wrote a poem which she says made Darwin think she should write a “great work” on the Linnaean system with personified plants, and he would write the notes; she answered that he would be better suited to fulfil the assignment himself.⁵² Without her permission, Darwin revised and published Seward's “Verses written in Dr. Darwin's Botanical Garden near Lichfield,” and also borrowed and adapted it for the opening of *The Economy of Vegetation* (see Appendix 4.1).

Seward dates the “commencement” of *The Botanic Garden* to 1779.⁵³ However, going by the account of Richard Lovell Edgeworth, portions of it were written even earlier: “The Doctor had not at that time [when Seward wrote her poem] formed the scheme of the Botanic Garden; but many of the lines, which it contains, had been seen by his friends, several years before the garden, which became the theme of his poetry, was in existence” (see Appendix 4.3).⁵⁴

In 1781, writing to Joseph Banks, Darwin thanks him for “some remarks you made on a poem” which seems to have been an early version of *LOTP*.⁵⁵ Confusingly, Darwin says, “I have written several of the notes, and corrected some of the verse, a part of which was written by Miss Seward, and a part by a Mr. Sayle.”⁵⁶ Either there was more collaboration, or plagiarism, afoot than Seward’s borrowed verses in *The Economy of Vegetation*, or the poem’s contents changed between 1781 and 1789; or perhaps he was, at this early stage, concealing his authorship of the verse from Banks, the great man of science. Darwin remarks, “The history you mentioned to Mr. Boothby of the Tremella is truly curious,” and asks “leave to add your account of it in the note,”⁵⁷ revealing that a draft those verses (*LOTP* I:427–466) and their accompanying note must have already existed in some form.

A letter to Joseph Johnson dated 23 May 1784 indicates that Darwin by that time had enough of a manuscript of *LOTP* to show the publisher. Darwin refers to “the work [...] which you have seen” and tells Johnson that he has “about 60 lines more to add to it, and two or three more notes.”⁵⁸ Either those additions took him several years, or he ended up doing more. The latter is quite possible since in the same letter he expects *The Economy of Vegetation* “will consist of but 400 lines, but [...] will have 3 or 4 times the quantity of notes” compared to *LOTP*. As King-Hele notes, it ultimately had 2448 lines.⁵⁹ Darwin also tells Johnson, “I would not wish to part with the intire copy-right, because that would preclude me from entrenching or altering,

or adding to it in any future edition.”⁶⁰ He also requests “*general or particular criticisms*” from Johnson, which, if provided (no answer is extant), may have led to revisions. Soon after publication of the first edition, though, Darwin did sell the copyright of *LOTP* to Johnson for £300, according to a contract dated 20 February 1790.⁶¹ In the same contract, Darwin received £400 for the copyright of *The Economy of Vegetation*. In a letter to Edgeworth a couple of months later (24 April 1790), Darwin reports these sums and adds that he “got 100£ by the first edition” of *LOTP*, presumably through the equal sharing of expenses and profits he had initially proposed to Johnson.⁶²

Darwin did in fact do most of his revision to *LOTP* before selling the copyright: by far the majority of significant changes, additions, and rearrangements occur between the 1789 and 1790 editions. In the Advertisement to *LOTP* 1790, Darwin lists what he considers to be the major revisions: the addition of verses and notes on Amaryllis (I:151–160), Orchis (III:259–326, including the episode of Eliza dying on the battlefield of Minden), Cannabis (IV:103–32), and Ocymum (IV:217–79). He also indicates that the lines on Gloriosa (I:117–38) and Tulipa (I:205–12) have been altered. The revision to the Gloriosa passage involved changing and lengthening the lines on Ninon de l’Enclos, in response to Anna Seward’s negative reaction to Darwin’s representation of Ninon in 1789 (see Appendix 4.1), while in the Tulipa passage only one couplet is rewritten and another added. The other major change Darwin lists is that “the description of the Saltmines in Poland”: eighteen lines of poetry and an accompanying note that had appeared in Canto IV of *LOTP* 1789, “is removed to the first poem on the Economy of Vegetation.” A portion of that note is kept in *LOTP*, repurposed in the note on the added plant *Ocymum salinum*. Plus, Darwin mentions the addition of two plates (Amaryllis and *Hedysarum*).⁶³ Other changes from 1789 to 1790 include some medium-sized insertions, such as

a verse passage on Joseph Wright's painting of Vesuvius (I:175–82), a response to criticism of the first edition in the *English Review* in Interlude II (pp. 95–6), and the addition of several sentences to various notes. There was also the structural change of relocating the notes in the Supplement section of *LOTP* 1789 to the main text or the Additional Notes. The rest of the changes between 1789 and 1790 are on the small scale: the scattered addition of couplets or sentences and some rewordings. From 1790 on, occasional small-scale alterations continued, though fewer in number. The most sizeable insertions in later editions include those to the Additional Notes (in 1791, the “Fairy-scene” passage from *Needwood Forest*, and in 1794, the extra account of the Upas by Aejmelæus and Thunberg). Most importantly, Darwin composed verses and notes on two more plants: Nelumbo (Canto IV) in 1794, and Epidendrum (Canto I) in 1799.

None of the editions of *LOTP* (or indeed of *The Botanic Garden* as a whole) published in Darwin's lifetime gave the author's name. And yet, from the start, the works were not exactly anonymous. In February 1789, sending the book to his friend Josiah Wedgwood, Darwin calls himself “the supposed, not the avow'd author.”⁶⁴ Walpole, in his effusions about *LOTP* to the Berry sisters, in the very month of its publication, names Darwin as the author (see Appendix 5.6). When the first volume of Darwin's medical treatise *Zoonomia* came out in 1794, its title page gave his name and indicated he was the “AUTHOR OF THE BOTANIC GARDEN,” as did his later prose works, *A Plan for the Conduct of Female Education in Boarding Schools* (1797) and *Phytologia; or the Philosophy of Agriculture and Gardening* (1800).

In the 1784 letter to Johnson, Darwin confides, “I would not have my name affix'd to this work on any account, as I think it would be injurious to me in my medical practise, as it has been to all other physicians who have published poetry.”⁶⁵ Seward says that Darwin responded with

the same misgivings when she suggested he write the poem himself (see Appendix 4.1).⁶⁶ Indeed, near the beginning of her biographical account, she paints a picture of Darwin bravely resisting poetry: “with the wisdom of Ulysses” he “bound himself to the medical mast, that he might not follow those delusive syrens, the muses” because he “remembered how fatal” the “gift of a highly poetic imagination” became to two other eighteenth-century poet physicians, Mark Akenside and John Armstrong.⁶⁷ This appears to have been more of an apprehension than a fact: there is no basis for the claim that Akenside or Armstrong was disadvantaged in their later medical careers by publishing poetry in their twenties (see Appendix 4.1, editor’s note). And besides, Darwin was 57 when *LOTP* was published.

Darwin had written poetry from a young age. The earliest poem we have of his was probably written when he was around twelve years old, to his sister:

My dearest Sue
Of lovely hue
No sugar can be sweeter;
You do as far
Excel Su-gar
As sugar does saltpetre.⁶⁸

Darwin was already mixing verse with chemistry and agriculture (saltpetre, or potassium nitrate, is used both in gunpowder and fertilizers). But before *LOTP* he published few poems. In 1751, his tribute verses on Thomas Gurney’s system of shorthand appeared anonymously in *The London Magazine*,⁶⁹ and were reprinted in Gurney’s *Brachygraphy* (1752), with the initials “E.D.” and the place and date of writing, “*Cambridge, St. Johns. May 14, 1751.*” Also in 1751, his verses on the death of Prince Frederick were published in a University of Cambridge

collection of tributes. An elegy in tribute to his son Charles was published as a book in 1778, but the authorship of that work is debated.⁷⁰ He probably collaborated on Anna Seward's first publication, *Elegy on Captain Cook* (1780).⁷¹ "Address to Swilcar Oak" was printed in F.N.C. Mundy's *Needwood Forest* (1776), with the initials "E.D." (see *LOTP* Additional Notes, editor's note) and "Ode to the River Derwent" was published in the *Gentleman's Magazine* in 1785,⁷² credited to "Dr. D——, of Derby." The lines from *LOTP* describing Fuseli's *The Nightmare* were published in an earlier version in 1783, but without Darwin's name (see *LOTP* III:51–78 and editor's note, and Appendix 1.3). In the attributions of these earlier publications there is a dance between remaining anonymous and leaving clues of identity; between being a "supposed" and an "avow'd author." There is a hint of what this meant to Darwin in a 1788 letter in which he tells his son Robert, "I shall not put my name to [*LOTP*], tho' it will be known to many: but the addition of my name would seem as if I thought it a work of consequence."⁷³ It seems to have been important to Darwin to make light of his poetry—whether he in fact took it lightly or not.

Another letter of Darwin's indicates that sacrificing poetry to medicine was not only a matter of reputation, but also of time and concentration amid the demands of establishing his practice and pursuing his research. In 1775, when gifted by his patient Joseph Cradock with a copy of his *Village Memoirs* (1774), Darwin writes back in a confessional mode: "what shall I send you in return for these? I who have for twenty years neglected the Muses, and cultivated medicine alone with all my industry!"⁷⁴ This would mean he hadn't composed verses since he was in university. He seems to have felt a deep, significant lack from having to channel his efforts of cultivation toward medicine and away from poetry. But the same letter reveals that, though he already had some articles in *Philosophical Transactions of the Royal Society*,⁷⁵ Darwin's apprehensions about publication extended to his medical writing: "Medical

Dissertations I have several finished for the press, but dare not publish them, well knowing the reception a living writer in medicine is sure to meet with from those who wish to raise their own reputation on the ruin of their antagonists. Faults may be found or invented; or at least ridicule may cast blots on a book were it written with a pen from the wings of the angel Gabriel”⁷⁶—a delightful image, suggesting that scientific discourse could be divinely inspired, while also representing the vulnerability that comes with “a work of consequence”.

Elizabeth Pole: Poetry, Fertility, and the Real Botanic Gardens

Darwin, however, did send Cradock the return gift of a poem: “I lately interceded with a Derbyshire lady to desist from lopping a grove of trees, which has occasioned me [...] to try again the long neglected art of verse-making, which I shall inclose to amuse you, promising, at the same time, never to write another verse as long as I live.”⁷⁷ He claims it is the preservation and celebration of plant life that cause him to resume versifying after two decades. It was also budding love, as the “Derbyshire lady” was Elizabeth Pole who would eventually become his second wife. (She was married at the time to Colonel Edward Sacheverel Pole, thirty years her senior. Darwin, sixteen years older than Elizabeth, met her through medically treating her and her children.) Having recommenced, Darwin did not keep his droll promise to stop, but composed a series of poems to Elizabeth which share some elements with *LOTP*.⁷⁸ This first in the series sets the tone, with Darwin taking on the female voice of a “Wood-Nymph” (though transforming in the final stanza into a “love-struck swain”) and asking his reader to cross the line between kingdoms and identify with plants:

Hear, bright Eliza! ere thy dread commands

Lop my green arms, my leafy tresses tear

[...]

Know, in this Grove there sleeps in every tree

A Nymph, embalm'd by some poetic spell,

Who once had beauty, wit and life like thee.

Oh, spare the mansions where thy sisters dwell!⁷⁹

The “poetic spell” recalls, in the Proem of *LOTP*, the “art poetic” by which Ovid “did transmute Men, Women, and even Gods and Goddesses, into Trees and Flowers,” and the “similar art” by which Darwin will “restore some of them to their original animality, after having remained prisoners so long in their respective vegetable mansions.” He mixes human and vegetable loves as the nymphs amorously promise (with reference to flowers and fruits, that is, to plant sexuality and reproduction): “For thee, sweet Belle, our earliest fruits shall grow, / For thee our sweetest blossoms scent the wind.”⁸⁰ Many of the poems involve personification of landscape; they depict a responsive environment charged with adoration for Elizabeth; they call her children “Loves” and express enchantment with her maternal affection (and, implicitly, her fertility).⁸¹ While they play with the conventions of pastoral and Petrarchan romance, the poems also mix in Lunar Society industry (in his versified commission of Matthew Boulton to craft a “tea-vase” for her) and medicine (alluding to her and her children’s illnesses and cures).⁸² The fact that Elizabeth was married not only causes these poems to resonate with the platonic love, and the painful yearning, that mark some of the botanic romances in *LOTP*; it also reflects the non-monogamous arrangements pervasive in the poem. Indeed, Darwin’s platonic protestations are quite impassioned:

Say! should I gaze o’er thy fair form with bliss,

Or ask the balmy rapture of a kiss,

Pure as the vestal meets her sister-guest,
Or holy lips on sainted marble press'd,
Could truth, could innocence or virtue blame?
And frowns Eliza on my guiltless flame?⁸³

Even though he knows a virtuous married woman cannot “bestow” any more than “A cold esteem,” he does not hide or deny his attraction to her.⁸⁴ His insistence that his love is pure hardly seems a declaration of sexless friendship, but spills over into vindication of sexual desire itself as pure, as in *LOTP*'s non-judgmental depiction of erotic multiplicity.

After five years of this poetic courtship, Elizabeth's husband died, and Darwin was “more fortunate than Petrarch” in his ideal romance becoming real.⁸⁵ They married in March 1781. Between 1782 and 1790, Darwin and Elizabeth had seven children together (all but one surviving infancy). Elizabeth already had three living children (of four) from her first marriage to Colonel Pole, while Darwin had two living from his first marriage to Mary “Polly” Howard (out of five: two had died in infancy, and his eldest, Charles, had died at age 19 in 1778, due to accidentally cutting his finger while dissecting a corpse during his medical studies). Colonel Pole had an illegitimate son previous to his marriage to Elizabeth; Elizabeth had been pregnant when she married Colonel Pole; and Elizabeth herself was an illegitimate child of the Earl of Portmore. Darwin also had two illegitimate daughters by Mary Parker, who, after his first wife died, came into the household to look after his son Robert. Darwin did not marry Mary Parker, but they seem to have stayed on good terms: he visited her after she married Joseph Day in 1782 and found her “very happy I believe.”⁸⁶ Susan and Mary Parker (born in 1772 and 1774) continued to live with the cumulative Darwin family, and Darwin's *A Plan for the Conduct of Female Education in Boarding Schools* (1797) arises from his role in setting up a school to be run by

Susan and Mary. Darwin's household, then, rather like *LOTP* itself, combined unconventional, non-monogamous love and fertility with legitimate and loyal domestic joys.

Real as well as poetic plants, gardens, and landscapes played a part in Darwin's relationship with Elizabeth. In King-Hele's view, when Darwin began the botanic garden that inspired Seward's verses, he "was obviously inspired by Elizabeth Pole. She was an almost obsessive gardener: fifty years later, when she was eighty, she would spend all day outside working, and supervising improvements to her extensive gardens."⁸⁷ The only contemporary account of what Darwin's Lichfield botanic garden was like is Seward's poem and Darwin's adaptation of it for the opening of *The Economy of Vegetation*. Seward would later give a general description of it in her memoirs of Darwin (see Appendix 4.1).⁸⁸ In *Phytologia*, Darwin would retrospectively describe the grotto he had excavated, and its strata, as an example of "a situation where the manner of the production of springs is most agreeably visible."⁸⁹ Paul Elliott has gathered available evidence to try to envision the garden, and emphasizes that it would have combined the functions of a physic garden or botanic garden (with organized specimens of classes of plants for both medical and botanical purposes) and a landscape garden (with plants chosen and arranged for aesthetic effect).⁹⁰ The garden itself, then, resembles *LOTP*, in its combination of beauty and pleasure with science and utility; even more so if Darwin created the garden both for his courtship of Elizabeth and his Linnaean studies. Ironically, however, on their marriage, Elizabeth did not come to live in Lichfield, but Darwin left his real botanic garden to live with her at Radburn Hall, over twenty miles away, near Derby.⁹¹ He made another botanic garden when they moved to their house in Full Street, Derby, in 1783, and for this there is an extant notebook cataloging plants (begun in 1796). Elliott observes that, while many "were not conventional garden cultivars" and could easily be mistaken for weeds, Darwin also "marked

some plants in the notebook with a 'B,' indicating those regarded as especially beautiful, most of which produced particularly large or colourful flowers." Elliott determines, by the catalog's account of how many Darwin planted, that irises were "unquestionably one of his favourite flowers."⁹²

The Lunar Society

In the 1770s and 1780s, when Darwin was composing *LOTP*, the Lunar Society of Birmingham was at its height. Darwin was a founder when it had its beginnings in the late 1750s, and it remained active until around 1800. It was in December 1775 that they began to have planned, though irregular, meetings at each other's houses on the Monday nearest a full moon (to have light for traveling in the evening). Though Darwin moved in 1781, and other members came and went as well, he kept in touch with several of his fellow "Lunaticks" by letter. Indeed, even before the move, much of their philosophical communication took the form of correspondence. On one occasion when Darwin, having to attend to patients, sent his regrets for a meeting of the "troop of philosophers," he described what he would be missing: "Lord! what inventions, what wit, what rhetoric, metaphysical, mechanical and pyrotechnical, will be on the wing."⁹³ Their topics of discussion had a remarkable range: as Jenny Uglow summarizes, "from optics and astronomy, chemistry and mechanics, hydraulics and minerals, to meteorology and magnetism, ballooning and ballistics."⁹⁴ What particularly characterized the Society was its equal interest in theoretical, experimental, and applied science. They shared a strong belief that knowledge and invention, activity and industry were improving forces, for individual advancement, but above all for the common good and the material, intellectual and political progress of humanity. The Society was known for the radicalism of several of its members who

were, for instance, enthusiastic supporters of the French Revolution, advocates for the repeal of the Test Acts (laws which seriously disadvantaged those not of the Church of England), and active abolitionists.

Darwin's close friends Richard Lovell Edgeworth, author, educator, experimenter and inventor, and Josiah Wedgwood, innovative pottery manufacturer and patron of the arts, were members. Other members included Matthew Boulton, the founder of the first "manufactory" in England (Soho, founded 1761), James Watt, the pioneer of steam power who partnered with Boulton in industry, and James Kier, who was a chemist and a manufacturer of glass and of soap. There was also Thomas Day, co-author with John Bicknell of the antislavery poem *The Dying Negro* (1773), and author of the influential three-volume children's book *Sandford and Merton* (1783–1789), which inserts a broad range of scientific information into its moral narrative. Notoriously, Day attempted a Rousseauvian project of educating two young girls in hope that he could create the perfect wife. Maria Edgeworth, connected with the Lunar Society through her father, applied this irresistibly novelistic plot to Clarence Hervey's relationship with Virginia in *Belinda* (1801).

The great author, Unitarian minister, scientist, and radical Joseph Priestley joined the society around the time Darwin left for Derby; thus, they did not get the chance to know each other well, but it is evident from his references that Darwin was familiar with Priestley's work. Priestley is the prime example of the way the Lunar Society combined science and radicalism. He also symbolizes the popular assumption that the innovative, experimental and polymathic must be politically dangerous. In 1791, a reactionary mob burned the New Meeting House where Priestley was minister, along with his home and laboratory, after he had held a dinner commemorating the fall of the Bastille.

Another Lunar Society member was William Withering, a physician and botanist like Darwin. There was a heated controversy when Darwin published research on the medical use of digitalis before Withering did.⁹⁵ Other rivalries in the group were more friendly; for example, Darwin had invented a copying machine he called a “bigrapher” (an apparatus with which writing with one pen would be reproduced by another attached pen). This captured the imagination of Watt who was spurred to make his own invention: he wrote to Darwin, “I have fallen on a way of copying writing *chemically* which beats your bigrapher hollow.”⁹⁶

Darwin’s Commonplace Book and Inventions

Darwin’s bigrapher is one of the inventions found in the commonplace book that he kept from 1776–1787, coinciding with the period of *LOTP*’s composition.⁹⁷ Along with the inventions, which often include sketches or diagrams, there are medical notes consisting both of case studies and theoretical ideas; there are also records of experiments, and ideas and observations on topics such as meteorology and chemistry, as well as on botany and horticulture. The inventions themselves span several scientific and mechanical categories: an electrical doubler for use in medical electrical therapy; spinning and weaving machines; a weathercock attached to a pointer in Darwin’s study so that he could see the direction of the wind from inside; a rocket motor propelled by inflammable air (hydrogen) and dephlogisticated air (oxygen). Even his playful invention of an artificial goose involved replicating the movement of wings based on close, detailed observation; and Darwin explored three different ways to power the goose: a watch-spring, gunpowder, or compressed air.⁹⁸ Inventions specifically for the garden include an improved plough that could “make two small furrows at once, one on one side of a horse & the other on the other side of him”; a “melonometer,” or “brazen gardener,” a copper or glass vessel

containing spirit of wine in a vacuum, which would open a hotbed when the sun shone; and an “ananometer,” a tube with a globe of hydrogen on one end and of mercury on the other, which would move in response to temperature and could be used “to admit air in to hothouses, or to stop up a fire-flew.”⁹⁹

Many of Darwin’s inventions for public improvements show his dynamic development of shared interests with his fellow Lunatics. Wedgwood was interested in canals for transportation of his pottery and had advocated for the construction of the Grand Trunk Canal (later called the Trent and Mersey Canal), finished in 1777. In 1765, Darwin wrote an initial draft for a pamphlet defending the canal plans.¹⁰⁰ In 1771, he shared his own canal design ideas for Lichfield in letters to Wedgwood, and in a 1777 entry in the commonplace book, designed a canal lift for situations where boats would have to pass from one level to another.¹⁰¹ Another idea Darwin returned to was the horizontal windmill, which would have more power and fewer parts than a regular windmill. He conceived of it for Wedgwood’s use in grinding pigments for his pottery factory. In 1779, he recorded experiments with the horizontal windmill in his commonplace book; Edgeworth helped with the project by doing experiments and making a model; and after the invention was workshopped at a Lunar Society meeting, James Watt wrote to Darwin with ample technical advice (incidentally, he copied the letter to demonstrate his chemical copying process). The invention was successfully constructed, and was in use at Wedgwood’s pottery works for thirteen years before being replaced by a steam engine.¹⁰² But that was not the end of it: Darwin repurposed the horizontal windmill years later in *Phytologia*, suggesting it could power a pump to drain morasses.¹⁰³

The Derby Philosophical Society

When Darwin moved to Derby in 1783, he founded the Derby Philosophical Society, a more formal society than the Lunar. Its main purposes were to provide a forum for philosophical discussion and to build a library. Darwin thought of the Derby and Lunar societies fraternally, suggesting to Matthew Boulton that they might occasionally have joint meetings, and marking the inception of the Derby society with the launch of a hydrogen balloon meant to greet the Lunatics by landing in Boulton's garden, though, to Darwin's amusement, it blew several miles off course.¹⁰⁴

Both societies were exemplary of the Midlands Enlightenment and its definitively local intellectual energy which was also confidently connected to the bigger ideas and broader movements of the wider world. Darwin was born near Nottingham and lived all his life in the Midlands except during his university studies at Cambridge and Edinburgh. Though he covered a lot of ground travelling locally to see patients, he rarely ventured even as far as London. He lived there briefly when he took a term off from Cambridge in 1753 to attend William Hunter's anatomy lectures in Covent Garden; he later visited once with Elizabeth after their marriage, when he met Joseph Banks and Henry Fuseli, and twice in 1785 to act as a witness for Richard Arkwright's defence of the patent of his cotton-spinning machine.¹⁰⁵ But Darwin's rousing address to the first regular meeting of the Derby Philosophical Society is geographically and temporally vast in its scope. Transforming the Biblical image of "the tree of knowledge, whose fruit, forbidden to the brute creation, has been plucked by the daring hand of *Experimental Philosophy*," Darwin declares that its "seed" was "sowed in Egypt" and "put forth buds and branches afterwards in Arabia"; and "in our times has, by the abundance of its flowers, and the exuberance of its fruit, enriched the whole terraqueous globe."¹⁰⁶ Societies, like the Derby Society, have been established "for the laudable purpose of collecting the scattered facts which

belong to these various subjects [of natural and experimental philosophy], and converging them, as it were, into one luminous point, or focus, to exhibit the distinct and beautiful images of science,”¹⁰⁷ rather like the *camera obscura* in the Proem to *LOTP*. Darwin envisions both a concentrating and a projecting effect: knowledge is gathered by local societies, displayed publicly in “beautiful images” for pleasure as well as edification, and in turn the knowledge produced by such societies is “circulated in every corner of the world.”¹⁰⁸

The Botanical Society at Lichfield and Translations of Linnaeus

Darwin founded yet another learned society, the Botanical Society at Lichfield, in the late 1770s, during the time he was composing *LOTP*. It would produce two translations of Linnaeus’s works. *A System of Vegetables* (1783) is a translation of *Systema Vegetabilium* and *The Families of Plants* (1787) is a translation of *Genera Plantarum*. Both are based on updated and expanded editions of their respective texts, and also draw on additional sources by Linnaeus, his son and his followers, and other botanists (see *LOTP* Preface vi–viii and editor’s note).

The Society consisted of Darwin, Brooke Boothby, and William Jackson. Seward joked, “it was amusing to hear scientific travellers, on their transit over Lichfield, inquiring after the state of the botanical society there,” when it only had three members.¹⁰⁹ Boothby, a writer and traveler, was part of the Lichfield literary circle with Seward and Darwin, and had an enthusiasm for collecting exotic plants.¹¹⁰ He was also a friend of Rousseau: they first met when Rousseau stayed at Wootton Hall in Staffordshire in 1766–1767. Darwin met Rousseau too at this time, apparently not through Boothby but through his medical services to the Davenport family of Wootton Hall.¹¹¹ Charles Darwin recounts that when Rousseau visited a cave under the Hall’s terrace (one of his favourite places for “melancholy contemplation”), Erasmus, knowing Jean-

Jacques “disliked being interrupted, [...] sauntered by the cave, and minutely examined a plant growing in front of it. This drew forth Rousseau, who was interested in botany, and they conversed together, and afterwards corresponded during several years,” but the correspondence does not survive.¹¹² Boothby, on a continental tour in 1775, visited Rousseau, who entrusted him with the manuscript of *Rousseau, Juge de Jean-Jacques: Premier Dialogue*, which Boothby published in 1780 after Rousseau’s death. Boothby is best known for the 1781 portrait Joseph Wright of Derby painted of him, in which he appears as the quintessential man of sensibility, reclining in a woodland scene, dandily dressed, and holding a volume of Rousseau.¹¹³ Janet Browne has suggested that the background might be Darwin’s botanic garden, while Jacques Zonneveld argues that it is a particular spot in Twenty Oak Wood that was another favorite Staffordshire haunt of Rousseau.¹¹⁴ Years later, Boothby would suffer greatly from the death of his only child Penelope in 1791 at age six. His collection of poems, *Sorrows Sacred to the Memory of Penelope* (1796), includes a sonnet to Darwin in gratitude for his medical care and sympathetic consolation, as well as an imitation of Horace dedicated to Darwin.¹¹⁵

The William Jackson of the Botanical Society might be “W. Jackson, of *Lichfield Close*” who wrote *The Beauties of Nature* (1769).¹¹⁶ The book consists mainly of a series of essays on the animal, vegetable, and mineral kingdoms, and the planets, comets, and stars, along with philosophical, moral, and theological themes, followed by a series of “Maxims of Truth” and an unconnected selection of poems, some moral, many rude. The chapter, “Of the vegetable World, or God’s Glory displayed in a short Description thereof,” includes some florid passages that call for comparison to *LOTP*, such as a description of tempting fruits that “now wanton in my Eye [...] enamelled and tinged with burnished Gold, vermillioned over with maiden Blushes, wooing me to pull and taste their enchanting Sweets.”¹¹⁷ But Jackson goes so far as to assert, quite

contrary to his future efforts with the Botanical Society, that “the infinite Variety of Plants [...] is a Labyrinth too intricate for the Tread of mortal Man.”¹¹⁸ Linnaeus would make that “Labyrinth” navigable, but here Jackson unstintingly emphasizes the ultimate ineffability of God’s creation and the limitations of undeserving Man. The kinds of inquiries he targets as hubristic, such as “to conceive, much less demonstrate, how [a] Seed, is by the Earth, formed into a Fœtus; or how it acquires Strength and is assisted and nourished in its several Gradations to Maturity,” or to analyze “how, and by what concealed Power or Instinct, a vegetable can feel, be sensible of, and retire from, the Human Touch, fainty and terrified” and then revive,¹¹⁹ are just such questions as Darwin would dare to answer in *LOTP* and throughout his writings.

It is not known for certain how the Botanical Society divided its work on the translations of Linnaeus. Seward’s account is so negative about Jackson as to seem obviously biased: she sums him up as “a would-be philosopher, a turgid and solemn coxcomb” who “worshipped and *aped* Dr. Darwin” and was merely “a useful drudge” to Darwin and Boothby “in their joint work [...] His illustrious coadjutors exacted of him fidelity to the sense of their author, and they corrected Jackson’s inelegant English.”¹²⁰ Elliott finds that his brief obituary in the *Gentleman’s Magazine* called him a “man of literature, and an useful assistant to Dr. Darwin, in his ingenious publication of the *System of Vegetables*.”¹²¹ King-Hele believes Boothby and Jackson helped with checking and proofreading, while Darwin did the actual translating.¹²²

Darwin’s letters certainly suggest he devoted much careful attention to the translation of Linnaean terminology.¹²³ In 1781, he sent “a specimen of a translation of the genera and species plantarum” to “about forty botanists,” among them Linnaeus the Younger and Joseph Banks, asking for comments and advice, consistently inquiring “if you think it can be translated on a better plan.”¹²⁴ He also consulted “that great Master of the english tongue Dr. SAMUEL JOHNSON”

(despite their rivalrous mutual dislike, according to Seward) “for his advice in the formation of the botanic language.”¹²⁵ In his letters to Banks in 1781–1782, Darwin gets quite specific in asking help with obtaining books for research, debating questions of translation, and reporting the comments of other correspondents.¹²⁶

A central principle of Darwin’s translation is to retain specifically Linnaean terms but give them English terminations: for instance, he renders “pistillum” as “pistil,” “anthera” as “anther,” and the plural “stamina” as “stamens.” In this he deliberately follows the lead of Rousseau who adapted Linnaean terms to French by the same method.¹²⁷ For other descriptive terms, Darwin translated the root word into English but took pains to find English terminations that would be accurate, idiomatic, and euphonious, thinking through many examples (e.g., “egg-shape” versus “egg-shaped” or “egg’d”; “toothlike” versus “toothed”).¹²⁸ The current forms of several English botanical terms can be traced back to Darwin’s decisions, such as “bract” and “floret.”¹²⁹

Darwin’s principles contrast with those of William Withering who translated portions of Linnaeus’s *Genera Plantarum* and *Species Plantarum* as part of *A Botanical Arrangement of all the Vegetables Naturally Growing in Great Britain* (1776). Withering purposely anglicized and desexualized Linnaean terms, for instance translating “stamen” and “pistillum” as “chive” and “pointal.” Darwin insists that the “sexual distinctions [...] are essential to the philosophy of the system,” and that many of Withering’s English terms “bear no analogy to those of LINNEUS.”¹³⁰ And Darwin observes that Linnaeus “may be said *to have formed a language*, rather than to have found one, suitable to his purpose.”¹³¹ If new words have to be learned anyway, one might as well learn the Linnaean terms. He purposely avoids inventing a special English terminology for English readers because it “would be so unintelligible to the latin Botanist, *that they could not*

converse together.”¹³² For Darwin, it is crucial that students of botany who do not know Greek and Latin can “*converse*” with those who do, encouraging mutual understanding and mutual contribution to the development of the science. It is also important to him that retaining the terminology will “assist the young Botanist in his study of the original.”¹³³ In the “Botanic Terms and Definitions” section of *A System of Vegetables*, he gives the Latin alongside every English term, and in the “Genera of Classes” section, as well as in the headings throughout, he provides the Greek names of the classes, as he does, too, in the “Preface” to *LOTP*.¹³⁴

An entry in Darwin’s commonplace book from 1778 seems to presage *LOTP* as well as the translations: “Linneus might certainly be translated into English without losing his sexual terms, or other metaphors, & yet avoiding any indecent idea.” Tantalizingly, there are a couple of crossed-out letters before Darwin settles on the word “indecent.” He then tries out possible terms: for classes, “1. one male” with another possibility, “beau” written above; “2 two males & c. 13 many males. 14 two masters,” with “lords” written above; “15. four masters. 16 one brotherhood 17 two brotherhoods. 18 many brotherhoods. 19 Cotemporaries.” For class 20, he tries three alternatives: it appears that he first writes “viragoes,” then “male-ladies” above, crosses them both out, and squeezes “male-coquetts” in the space between. Then, “21 one house. 22 two houses.” with “seperate ~~one~~ beds” and “seperate ~~beds~~ houses” written above. For Class 23 there are three tries: “many marriages” and “cuckoldoms” crossed out, and “polygamies” written into the space. Class 24 is “clandestine marriages.” For the orders, he writes, “1 one lady, two ladies & c.” and above writes other possibilities: “wife,” “belle,” and “wives.”¹³⁵ On the same page and facing page are theoretical and practical notes on constructing a device to make “luminous music,” as would be discussed in *LOTP* Interlude III.¹³⁶ That Darwin was thinking of the Linnaeus translations and the composition of *LOTP* very much in tandem is confirmed by his

1781 letter to Banks where the thanks for his comments on the poem come up in the midst of updating Banks on the progress of the translation work. The letter also explains, “the design of the poem was to induce ladies and other unemploy’d scholars to study Botany, by putting many of the agreeable botanical facts into the notes”.¹³⁷

Popular Botany

Darwin’s translations of Linnaeus, and *LOTP*, were part of an eighteenth-century trend of popular botany. Ann B. Shteir dates this era of participation by non-scientists, including women, in the sciences generally, and botany in particular, to a period lasting from the 1760s to the 1830s.¹³⁸ Shteir observes that in the nineteenth century there was “a deepening divide between the general and the specialist, the popular and the academic, between the ‘high’ science of gentlemen in metropolitan learned societies and the ‘low’ science of practitioners who diffused scientific knowledge for practical use” and who rejected “activities within scientific culture that were associated with politeness and gentility,” leading to the professionalization of science.¹³⁹ Shteir emphasizes that with the professionalization of botany came the defeminization of botany.¹⁴⁰

Darwin was not alone in recognizing and writing for the many women and men who did not have the privilege of a classical education but wanted to participate in botanical science, whether for amusement or for serious study. Thomas Martyn (who was Professor of Botany at Cambridge) hopes that his translation of Rousseau’s *Letters on the Elements of Botany* (1785) “might be of use to such of my fair countrywomen and unlearned countrymen as wished to amuse themselves with Natural History.”¹⁴¹ William Withering, in “The Design” of his *Botanical Arrangement*, explains that his decision to “drop the sexual distinctions” of the Linnaean system

was motivated by “an apprehension that Botany in an English dress would become a favourite amusement with the Ladies, many of whom are very considerable proficient in the study, in spite of every difficulty.”¹⁴² Darwin, in the preface to *A System of Vegetables*, emphasizes the potential of popular participation to expand scientific knowledge: he calls attention to “the gardiner, the herb-gatherer, the druggist, the farmer, and all who are concerned in cultivating the various tribes of vegetation, in detecting their native habitations, or in vending or consuming their products” who “wished to attain, and were capable of enlarging” scientific knowledge of plants, but were prevented from doing so as long as Linnaeus’s system, “like the Bible in catholic countries, has been locked up in a foreign language, accessible only to the learned few, the Priests of Flora.”¹⁴³ In his acknowledgements, he recognizes the assistance of a range of professors, authors, and amateurs, including certain “learned and ingenious Ladies,” such as Anna Blackburne, a natural historian with a significant collection of flora and fauna (with many rare specimens sent to her by her brother in America), who corresponded with Linnaeus himself, and had loaned Darwin a copy of the updated thirteenth edition of *Systema Vegetabilium*.¹⁴⁴

It was the system of Linnaeus that enabled the popular flowering of botany. His binomial nomenclature reduced the lengthy descriptive names previously used to two names, genus and species. His system was intended to facilitate international communication by determining standardized names for plants (while their common names were potentially various even within a country, let alone across the world) and a standardized system of classification. Such streamlining and international co-ordination was particularly necessary for handling the great influx of newly discovered species from exploration and colonization.¹⁴⁵ Since classification was based on one feature of the plant, its reproductive organs, to identify a plant’s place in the taxonomy one need only observe the number, shape, situation, and proportion of pistils and

stamens (except for species whose reproductive organs were not discernible with the eye, classified under Cryptogamia). Linnaeus claimed his system could be learned in a year without a teacher.¹⁴⁶ However, the benefit of simplicity is counterbalanced by the system's artificiality. Because the system focuses on one aspect of the plant only and does not take into account the larger picture of plant morphology, it does not necessarily group plants according to their natural families.

Linnaeus freely admitted that his system was artificial, but made the distinction that "Natural Orders enable us to judge of the nature of plants; artificial ones enable us to distinguish them."¹⁴⁷ Linnaeus himself expected his system to be superseded,¹⁴⁸ but argued for the usefulness of the sexual system in the meantime because of the challenges inherent to constructing a natural methodology: "He, who instead of a natural method disposes the plants according to the fragments of it, and rejects the artificial method, seems to me to resemble a man, who should demolish a commodious house built upon pillars, and in its place endeavour to erect another, unable to construct a pedestal, or to turn an arch."¹⁴⁹ Darwin, as enthusiastic as he was in popularizing Linnaeus's artificial sexual system, took a similar view. In *Phytologia*, he observes, "some of [Linnaeus's] classes have appeared to me to be more excellent than others, as they seemed to approach nearer to natural ones."¹⁵⁰ Darwin endorses the benefits of a natural system, both for "more readily distinguishing [plants] from each other" and "detecting their virtues or uses."¹⁵¹ But he sticks to the focus on sexual organs, suggesting that those Linnaean classes that are more natural are deduced "from the situations, proportions, or forms of the sexual organs rather than from their number." He also recognizes that "great time, labour, opportunity, and ingenuity, would be required to establish [...] the most invariable and most natural classes of vegetation."¹⁵²

Linnaeus's sexual system was embraced across Europe in the latter part of the eighteenth century, except in France where it was criticized for its artificiality by George Louis Leclerc, comte de Buffon, and by Antoine Laurent de Jussieu who, along with his uncle Bernard de Jussieu, and Michel Adanson, was instrumental in developing the natural system that would replace it in the nineteenth century. In Britain, John Lindley would declare the sexual system dead in 1836.¹⁵³ Shteir connects this development with the professionalization and defeminization of botany: "teachers continued to explicate Linnaean botany for students" but it was increasingly "associated with children, beginners, and women."¹⁵⁴

Botany, Sex, and Gender

Among the sciences, botany was particularly suitable as an acceptable feminine activity. It could provide amusement on walks and subjects for drawing, and it did not require much special equipment, nor, thanks to Linnaeus and his translators and mediators, much previous grounding in scientific knowledge. It could be regarded as a morally improving pastime, an antidote to idleness or an alternative to more frivolous activities or preoccupations, and a way to know and admire the Creator through His works. Yet, simultaneously, botany could also be regarded as highly improper since the Linnaean system was based on sex. It implicitly confirmed that plants reproduce sexually, a concept that only arose in the late 1600s and continued to be contested through Darwin's time and into the nineteenth century.¹⁵⁵ Linnaeus was attacked by opponents who did not accept the very idea of plant sexuality. A quotable example is the article on Botany in the first edition of the *Encyclopaedia Britannica* (1771), compiled by William Smellie, which asserts that "it is a certain fact, that obscenity is the very basis of the Linnæan system" and his writing exhibits "such a degree of indelicacy in the expression as cannot be

exceeded by the most obscene romance-writer.”¹⁵⁶ He quotes Linnaeus’s *Sponsalia Plantarum* [The Betrothal of Plants] (1746) with incredulity, giving a full list of analogies between the sexual parts of humans and plants in Latin, for example, “*Antheræ sunt TESTICULI*” and “*Stigma est vulva*,” and taking issue with some of them in English: “The calix is made to represent no less than three things of very opposite natures; first, it is analogous to the *chamber of the bride*, then to the *female organ*, and last of all to the LABIA.”¹⁵⁷ He remarks that “Men or philosophers can smile at the nonsense and absurdity of such obscene gibberish; but it is easy to guess what effects it may have upon the young and thoughtless”: a “bad tendency upon morals.”¹⁵⁸

According to Sam George, it was only in “the turbulent revolutionary climate of the 1790s” that “the stereotype of the forward, sexually precocious female botanist made its first appearance in literature,” and it appeared specifically in parodies targeting *LOTP*.¹⁵⁹ For instance, Richard Polwhele “shudder[s]” to see girls “With bliss botanic [...] point the prostitution of a plant; / Dissect its organ of unhallow’d lust, / And fondly gaze the titillating dust,” and he confides, “I have, several times, seen boys and girls botanizing together” (see Appendix 5.10).¹⁶⁰ Here, botanizing becomes a euphemism for illicit and promiscuous sexual activity. His shock is quite humorous and reveals a combined horror at female sexuality and female science education. This scandalized response was not universal, as Julia List shows.¹⁶¹ The fact that the conservative writer Thomas James Mathias, called “frightful” and “a *literary* alarmist” by *The Monthly Review*,¹⁶² was the first to attack *LOTP* for its treatment of gender and sexuality (see Appendix 5.9) seems a definite clue that it was liberating. Yet, interestingly, recent scholarship has taken differing views on this point: for some, *LOTP* is a celebration of sexuality unconstrained by the double standard or monogamy,¹⁶³ while for others it reinforces gender stereotypes and conventions of heterosexuality and marriage.¹⁶⁴

Ann Shteir and Londa Schiebinger have argued that the Linnaean system imposed eighteenth-century assumptions about sex and gender on the vegetable kingdom, assuming they were natural and insinuating them into scientific knowledge.¹⁶⁵ Calling stamens and pistils male and female in the first place is a construction based on analogy with human reproductive organs. The Linnaean system inherently projects human sexuality onto plants, whether it fits or not. If Linnaeus is ready to say anthers *are* testicles and the stigma *is* the vulva, Darwin's romances of personified pistils and stamens go yet further in projection. That Linnaeus uses such metaphors in science writing makes it seem accidental how amusing they are. By extending them into poetry, Darwin spotlights their fantastical aspect. Darwin's dramatizations vividly show where analogies between human and plant sex break down, biologically, culturally, and morally. One obvious instance is the numbers, italicized ostensibly to indicate the Linnean classification but also with a sensationalist effect, showing off how rare monogamy is among vegetables: for instance,

Two knights before thy fragrant altar bend,

Adored MELISSA! and *two* squires attend.

Meadia's soft chains *five* suppliant beaux confess,

And hand in hand the laughing belle address (*LOTP* I:59–62)

Furthermore, as Walpole noticed, the males consistently outnumber the females so that it is “the botanic *ladies* who keep harems and not the *gentlemen*” (see Appendix 5.6).¹⁶⁶

The sexual daring is more suggestive than explicit. Darwin's episodes do not tend to include sexual acts as much as anticipatory, respectful, or unrequited desire. It could be called very soft erotica, as in Darwin's penchant for feminine garments being blown aside by the wind. The relationships are generally placed in the framework of marriage and courtship, even when

they involve multiples: “The freckled IRIS owns a fiercer flame, / And *three* unjealous husbands wed the dame” (*LOTP* I:71–2). This simultaneously subjects the eroticism to social regulation and redefines the parameters of marriage. Darwin rarely pronounces judgment on such alternative arrangements. For instance, in the poem’s big finish describing Adonis where “A *hundred* virgins join a *hundred* swains,” a couple of negative adjectives arise—“Licentious Hymen [...] loosely twines the meretricious bands”—but both are paradoxically yoked to marriage. And this describes the flower; when the verses turn to human mass marriage in Tahiti, “pleased Venus [...] smiles [...] / And the loves laugh at all, but Nature’s laws” (*LOTP* IV:467, 481–82, 483–86).

Because of being figuratively grounded in male-female marriage, and literally based on reproduction, the poem’s sexual freedoms seem limited to the heteronormative.¹⁶⁷ However, it doesn’t take a big stretch of imagination to start wondering about the relationship the “*three* unjealous husbands” have with each other. Ditto, of course, where there are multiple females, such as “*Five* sister-nymphs to join Diana’s train” (I:107). Gender roles and identities in *LOTP* are often stereotypical, or perhaps it would be more accurate to call them archetypal, but they are also diverse, if only due to the constantly changing scenes. And the Linnaean system comes complete with a class, Gynandria, which Darwin translates alternately as “feminine males” and “masculine ladies” (cf. *LOTP* Preface, p. v, and IV:281n). Maja Bondestam argues that, for all the wives and husbands and marriage beds that scholars such as Schiebinger have seized upon, Linnaeus “far more often” represented plant reproduction as “hermaphroditic, same-sex and polygamous connections.” He did not “have any difficulty in imagining plants as hermaphroditic.” Indeed, the combination of sexes in one individual was central for Linnaeus”

and his “botany actually legitimated a multitude of sexual anatomies and unconventional sexual associations in nature, making them natural and conceivable.”¹⁶⁸

Besides, it is too easy to forget that, as M.M. Mahood points out, there are many “scenarios” in *LOTP* “in which sex has no role.”¹⁶⁹ The epic similes often allow departures from the main theme, but even the plant tableaux begin to stray quite early. About halfway through Canto I, *Helianthus* is depicted as a “gaudy band” of sun worshippers with no mention of courtship, marriage, or reproduction (*LOTP* I:223–30). By the time Darwin gets to Canto III, the majority of tableaux have nothing to do with romance, sex, or fertility. Only in the final canto does he finally return to the supposed main focus of the poem. This could merely be a failure to stay on topic, but Mahood sees it as a way for Darwin to ease up on the pervasive multiple suitors for the sake of propriety.¹⁷⁰ It could also be a way of suggesting that “Loves” can take many forms and have many objects. Over the course of the poem, they range from love between parent and child to love of learning, invention, and inspiration. And if *LOTP* makes rarity of monogamy natural, it makes these alternative passions natural as well.

Even while its plant romances can be seen alternately as absurdly fanciful or narrowly conventional, *LOTP* has great potential to call into question biological and moral assumptions about human gender and sexuality, not only through its dissonant analogies between plant and human, but also through the artificiality with which it treats the natural. In light of the pageantry of Darwin’s vignettes, all gender roles can come to seem performative, and all sexual tendencies seem like role play. There is something very camp about them, equally in the ornately sensational and the sweetly domestic. Readers like Horace Walpole and Mary Berry picked up on the campiness from the start, while others, such as Hannah More, simply couldn’t relate (see Appendix 5.6).

Humans and Nature

The most striking artificiality of Darwin's verse is his use of personification. In this, as well as his retro heroic couplets and heightened poetical style, Darwin is rather far from Wordsworth's "language really used by men."¹⁷¹ But, as Catherine Packham observes, Darwin did not indulge in "personifications of abstract ideas" as many eighteenth-century poets did and Wordsworth tried to avoid doing; instead, Darwin personified visible, living things.¹⁷² Personification seems key to understanding the kinds of relationship between humans and nature envisioned in *LOTP*. On the one hand, it reinforces the projection of the human on to nature already inherent in Linnaean taxonomy. As a form of anthropomorphization, it overrides the otherness of the non-human and reduces other living things to human terms. In this way it takes human perception and experience as the universal norm and assumes that nature exists only in relation to humans and for human use. Like his Lunar Society industrialist companions, Darwin certainly believed that nature exists for manipulation and improvement by humans, and for human benefit. Examples abound in *LOTP*, especially in Canto II, of his interest in the medicinal and practical uses of plants, depicted in both verse and notes as offered willingly by nature, such as in the fortuitous discovery of the febrifugal properties of cinchona (a.k.a. Peruvian bark) due to felling trees into a lake providing drinking water (*LOTP* II:347–404). In *The Economy of Vegetation*, Darwin's ingenious idea of evening out the world climate by dragging icebergs to the Equator is horrifying in our age of global warming, but for him was a co-operative pairing of nature's potential with human ingenuity for the general good.¹⁷³ As Donna Coffey puts it, it seems ironic that "the very technologies which Darwin was engaged in developing would contribute to the degradation of the natural world which he loved. In essence, the first half of *The*

Botanic Garden” (*The Economy of Vegetation* with its celebration of industry and invention) “would lead to the destruction of the second half.”¹⁷⁴ But critics have recently been giving increasing attention to this paradox in Darwin’s writing and discovering its ecological possibilities.¹⁷⁵

Personification also has the potential to endow non-human forms of life with human-like faculties, giving them agency and value commensurate to humans. This apparently opposite function of personification also accords with Darwin’s thought. He theorized that plants had volition, could sleep and dream, and could form ideas. Depicting the romances of personified stamens and pistils, then, is not a mere gimmick, or a preposterous fancy, if plants can actually experience the passion of love, as Darwin liked to believe (See *Zoonomia* XIII, Of Vegetable Animation, Appendix 3.1). He was fascinated by analogies between plant and animal systems, organizing the first part of *Phytologia* around the “Physiology of Vegetation,” with chapters such as “Their Pulmonary Arteries and Veins,” “Their Organs of Reproduction,” and “Their Muscles, Nerves, and Brain,” all of which in their contents consistently turn to animal-vegetable comparisons. Similarly, in *The Economy of Vegetation*, the Additional Notes on vegetable physiology include “‘Perspiration,’ ‘Placentation,’ ‘Circulation,’ ‘Respiration,’ ‘Impregnation’ and ‘Glandulation’ on a strict analogy, even homology, with the animal,” as Komisaruk and Dushane observe.¹⁷⁶ *LOTP* attests to his fascination with the grey areas in the hierarchy of life forms, such as plants that resemble insects (e.g., *LOTP* I:243n), and mushrooms as “a kind of isthmus connecting the two mighty kingdoms of animal and of vegetable nature” (*LOTP* I:427n). His view of organic life becomes less a hierarchy than a continuum, with all forms of life in some ways being on a level, and in other ways having different degrees of complexity in their systems, which yet remain fundamentally analogous.

Many of Darwin's readers and critics felt differently. Hannah More wished that Darwin had devoted his poetic abilities "to subjects more congenial to human feelings, than the intrigues of a flower garden": she can "feel" for the "beauty" of flowers, but is "indifferent [...] to their amours, their pleasures, or their unhappiness." Indeed, it upsets her that reading *LOTP* could take away that indifference: "I should lose one of my greatest pleasures, and [...] be filled with alarm lest every rose and pink I gathered might make a multitude of widows and orphans" (see Appendix 5.6).¹⁷⁷ She anticipates the objections of later commentators. For example, in 1800, Polwhele would ask, "How is it possible to enter into the feelings of plants? Are we not, in a manner insulted, when seriously called upon, to sympathize with herbs and flowers in their secret sighs? [...] What a burlesque on love, the most charming, the most poetical, of our passions!" (see Appendix 5.16).¹⁷⁸ Apparently it is insulting to humans to suggest that other forms of life may have feelings. Such a response seems to cling to a superior position separate from a firmly subordinated nature, while Darwin's delightful fancies once again threaten the supposed natural order of things. In this light, Wordsworth's rejection of personification, which closes with the statement, "I have wished to keep my Reader in the company of flesh and blood"—not plant tissue—"persuaded that by so doing I shall interest him", seems to be a stark refusal to "enter into the feelings" of the natural world.¹⁷⁹ This might seem impossible to impute to such a devotee of nature as Wordsworth, but his relation to nature is very different from Darwin's, for whom nature is out there, to be observed and employed by humans, rather than an extension of human interiority. The perception of nature as reflecting or inspiring the inner life of humans is another kind of projection of the human on nature. Ironically, the artificiality of Darwin's verse defers more to nature, as it prevents nature from being reduced to a reflection of the human psyche. It foregrounds its own artfulness and admits that nature is being perceived and

understood from a specifically human point of view that is not universal but one particular part of nature, one species among others.

A passage in *Phytologia* shows Darwin (in the voice of an anonymous “Philosopher”) attempting to see humans as one species among many:

I well remember to have heard an ingenious agricultor boast, that he had drained two hundred acres of morassy land, on which he now was able to feed a hundred oxen; and added, “is not that a meritorious thing?” “True,” replied one of the company, “but you forget, that you have destroyed a thousand free republics of ants, and ten thousand rational frogs, besides innumerable aquatic insects, and aquatic vegetables.”¹⁸⁰

Here Darwin flips the script from humans mastering the natural environment to being part of an interdependent ecosystem. And nature is not an abstraction but a myriad particular beings who have intellectual and political capabilities equal (or superior) to the human improver. That artfulness, invention, and civilization may not be exclusively human is asserted in several *LOTP* figures, perhaps most strikingly Papyra, the female personification of papyrus who is credited with inventing and teaching writing, that most human accomplishment. (*LOTP* II;105–54).

Humans may be set apart from nature in being able to observe it, and to do science and poetry as a result, but the immersive experience of the *camera obscura* Darwin leads his audience into (*LOTP* Proem) is a curious combination of reflecting nature artfully and observing it from within. The very idea of a dichotomy between humans and nature is radically undermined when Darwin says, in *The Temple of Nature*, that “when a Monarch or a mushroom dies,” they are equally “organic matter” that will come back to life in another form.¹⁸¹ Personification of plants in *LOTP* challenges the human/nature distinction all the while its disjunctions call attention to essential difference between life forms. The poem expresses a boundless eagerness to understand

the natural world all the while calling into question the superiority of human comprehension. The limitations of the human capacity to understand non-human life forms are displayed in the very absurdity of rendering stamens and pistils as swains and nymphs. Yet the basis of analogy allows human and non-human beings to be comparable but not the same, thus allowing for a sympathetic relation to nature¹⁸² that preserves otherness without having to base it on human separateness or superiority. As Denise Gigante puts it, for late eighteenth-century vitalist writers such as Darwin, analogy “provided a way to keep two entities in play without collapsing them into each other.”¹⁸³ Humans may be different, but all entities are different, and *LOTP* glories in the immense variety of species and the correspondences between them.

Conclusion: Pleasure

Walpole wrote of *LOTP*, “I can read this over and over again forever, for though it is so excellent, it is impossible to remember anything so disjointed” (see Appendix 5.6).¹⁸⁴ So what is the point of reading a didactic poem that you immediately forget? The point, with *LOTP*, might be different from the traditional purpose to delight and instruct. For Darwin, the pleasure is not merely a sugar-coating to entice reluctant readers into learning, but an integral element, of value in itself. Indeed, studying plant life convinced Darwin that sugar is the basis of all nourishment: “as the digested food of vegetables consists principally of sugar, and from that is produced again their mucilage, starch, and oil, and since animals are sustained by these vegetable productions, it would seem that the sugar-making process carried on in vegetable vessels was the great source of life to all organized beings.”¹⁸⁵ And in *Phytologia* he represents the earth itself as formed wondrously of pleasure. It is made of the decomposed organic matter of living things that had pleasure in the processes that formed and maintained their material being, such as digestion and

secretion; thus, “all the calcareous mountains in the world, and all the strata of clay, coal, marl, sand, and iron, which are incumbent on them, are MONUMENTS OF THE PAST FELICITY OF ORGANIZED NATURE!” (see Appendix 3.3).¹⁸⁶ The idea re-echoes near the end of the last canto of *The Temple of Nature* in a memorable poetic rendition:

Thus the tall mountains, that emboss the lands,
Huge isles of rock, and continents of sands,
Whose dim extent eludes the inquiring sight,
ARE MIGHTY MONUMENTS OF PAST DELIGHT.¹⁸⁷

The structure of *LOTP* seems to invite different kinds of pleasure. Walpole reassures us that it is all right to enjoy the poem as eye-candy. In fact, he may be an ideal reader in this way, given that Darwin introduces the poem as a picture show giving “trivial amusement” by beautiful persons, graceful attitudes, and brilliant dress (*LOTP* Proem ix, xi). This may be a modest understatement, or it may be a vindication of such pleasures, considering how strenuously Darwin defends visual poetry in the Interludes—and how strenuously some critics disapproved of such supposed shallowness (see for instance Moir and Southey, Appendices 5.17 and 5.19). If the poem were more deep, serious, and unified, it would require a different kind of reading. And, as Walpole finds, its episodic forgettability offers the potential for ongoing re-reading. Its glittery, fleeting tableaux allowed Darwin to compose the poem by returning to it periodically over more than a decade, in moments of pleasurable fancy amid the very serious responsibility of caring for the sick and dying. As Edgeworth attests, “Doctor Darwin composed and wrote the detached pictures in his poem, as he travelled in his carriage among his patients” (see Appendix 4.3).¹⁸⁸ The form equally allows readers to dip in amid the demands of work and life. Donald M. Hassler argues that “comic irony is indispensable for Darwin in the fact of the uncertainties and

self-contradictions that his sceptical analytic thought reveals”; it is a “defense against the puzzles of the infinite universe.”¹⁸⁹ In effect, both the practical and theoretical work that Darwin did might not have been enduring or possible without the poetic lightness he came to be known for.

In its hybrid form, *LOTP* apparently balances frivolity in the verse with seriousness in the notes. But the notes offer another kind of pleasure, as they let the reader share the nerdy enjoyment Darwin clearly felt in scientific knowledge: in its detail, its facts stranger than fiction, and its speculative fictions that he sometimes pursues into the delightfully impossible, and sometimes into the intuitions that would break the ground for future discoveries. Science, like poetry, offers the benefit of salutary diversion. In the catalog of diseases and remedies in the second volume of *Zoonomia*, Darwin recommends, as a treatment for “*Tædium vitæ*,” “the cultivation of science, as of chemistry, natural philosophy, natural history, which supplies an inexhaustible source of pleasurable novelty, and relieves ennui by the exertions it occasions.”¹⁹⁰ The notes to *LOTP*, in their overwhelming detail and variety, may be as easily forgettable as the poetry (or, as they were for Walpole, “scarce intelligible” (see Appendix 5.6)).¹⁹¹ But their effect similarly enables selective attention and repeated return. Darwin himself often repeats information across his writings, sometimes almost verbatim, reseating it in different contexts, which can have fertile results, as in his work on *Phytologia* leading him to revise his theories of generation in the second edition of *Zoonomia* (see Appendices 3.2 and 3.4).

Reseating Darwin’s writing in our twenty-first century context can potentially be as fertile. But though I have argued that *LOTP* offers a window into a time before momentous changes in poetry, science, and culture, and offers rich material for thinking through current concerns, perhaps the best reason to keep on reading this famously unread book is pleasure. The ostensible didactic purpose may be for a reader to learn botany, the delight of the verse leading to

study of the notes. But even if, like Walpole, we forget what we have just read, we might learn something different: regain a lost liberty of wide-ranging thought, of imagining impossibilities; realize the fundamental value of pleasure; and rediscover the continuity that links all forms of life.

¹ Walpole to Mary and Agnes Berry, 28 April 1789, in *The Yale Edition of Horace Walpole's Correspondence*, ed. W. S. Lewis (Yale University Press, 1937–1983), Vol. 11, p. 10.

² King-Hele in *Erasmus Darwin and the Romantic Poets* (Macmillan, 1986), and Priestman in *The Poetry of Erasmus Darwin: Enlightened Spaces, Romantic Times* (Ashgate, 2013), pp. 217–56, thoroughly track Romantic writers' knowledge of, opinions of, and influence by Darwin. On women's botanical poetry, see Sam George, *Botany, Sexuality and Women's Writing 1760–1830* (Manchester University Press, 2007).

³ George Gordon, Lord Byron, *English Bards, and Scotch Reviewers. A Satire* (1809), p. 48n.

⁴ William Hazlitt, "Lecture VIII: On the Living Poets," in *Lectures on the English Poets* (1818), pp. 287–88.

⁵ Charles Darwin, *The Life of Erasmus Darwin* (1879), ed. Desmond King-Hele (Cambridge University Press, 2003), pp. 32–3.

⁶ C. Darwin, *Life of Erasmus Darwin*, p. 34.

⁷ Katherine Binhammer, "The Sex Panic of the 1790s," *Journal of the History of Sexuality* 6.3 (1996): pp. 409–34.

⁸ Binhammer, "The Sex Panic of the 1790s," p. 417.

⁹ Binhammer, "The Sex Panic of the 1790s," p. 412.

¹⁰ C. Darwin, *Life of Erasmus Darwin*, p. 63. For discussions from different perspectives on Erasmus Darwin and atheism, see Martin Priestman, *Romantic Atheism: Poetry and Freethought, 1780–1830* (Cambridge University Press, 1999), pp. 44–79, and Ashley Marshall, "Erasmus Darwin contra David Hume," *British Journal for Eighteenth-Century Studies* 30 (2007): pp. 89–111.

¹¹ C. Darwin, *Life of Erasmus Darwin*, p. 89.

¹² *Memoirs of Richard Lovell Edgeworth, Esq. Begun by Himself and Concluded by his Daughter, Maria Edgeworth* (1820), Vol. 2, p. 137.

¹³ *The Botanic Garden by Erasmus Darwin*, ed. Adam Komisaruk and Allison Dushane (Routledge, 2017).

¹⁴ Priestman, *The Poetry of Erasmus Darwin*, p. 3.

¹⁵ Julia List, "Sometimes a Stamen is Only a Stamen: Sexuality, Women and Darwin's Loves of the Plants," *Nineteenth-Century Contexts* 32.3 (2010): p. 207. See also List's "Erasmus Darwin and the Poetry of Science" (PhD diss., University of Melbourne, 2010) for her broader re-evaluation of the reception of Darwin's poetry.

¹⁶ Jerome McGann, *The Poetics of Sensibility: A Revolution in Literary Style* (Clarendon, 1996), p. 1.

¹⁷ McGann, *The Poetics of Sensibility*, p. 128.

¹⁸ William Wordsworth, Preface to *Lyrical Ballads* (1802), in *William Wordsworth: The Major Works*, ed. Stephen Gill (Oxford University Press, 2011), p. 598.

¹⁹ McGann, *The Poetics of Sensibility*, p. 133.

²⁰ Articles on Erasmus Darwin's evolutionary theories and their relation to Charles's work include James Harrison, "Erasmus Darwin's View of Evolution," *Journal of the History of Ideas* 32.2 (1971): pp. 247–64; Roy Porter, "Erasmus Darwin: Doctor of Evolution?," in *History, Humanity, and Evolution: Essays for John C. Greene*, ed. J. R. Moore (Cambridge University Press, 1989), pp. 39–69, and Patricia Fara, "Questions of Inheritance: Erasmus and Charles Darwin," in *The Two Darwins*, ed. Martin Priestman and Louise Lee, *Romanticism on the Net* 66–7 (2016). Also see Appendix 3.1 and 3.3 which include some instances of evolutionary thought in ED's prose works *Zoonomia* (1794–1796; 1801) and *Phytologia* (1800).

²¹ Edward Reed, *From Soul to Mind: The Emergence of Psychology from Erasmus Darwin to William James* (Yale University Press, 1997), pp. 13–14.

²² Priestman, *The Poetry of Erasmus Darwin*, p. 6.

²³ Dyer describes Lewis Paul's wool-spinning machine while Darwin describes Richard Arkwright's cotton spinning machine. The lines from Dyer are as follows:

We next are shown
A circular machine, of new design,
In conic shape: it draws and spins a thread
Without the tedious toil of needless hands.
A wheel, invisible, beneath the floor,
To ev'ry member of th' harmonious frame
Gives necessary motion. One, intent,
O'erlooks the work: the carded wool, he says,
Is smoothly lapp'd around those cylinders,
Which, gently turning, yield it to yon cinque
Of upright spindles, which, with rapid whirl,
Spin out, in long extent, an even twine.

²⁴ Rudolf Beck, "From Industrial Georgic to Industrial Sublime: English Poetry and the Early Stages of the Industrial Revolution," *British Journal for Eighteenth-Century Studies* 27 (2004): pp. 17–36. On industrial georgic see also Tobias Menely, "Mine, Factory, and Plantation: The Industrial Georgic and the Crisis of Description," *Climate and the Making of Worlds: Toward a Geohistorical Poetics* (University of Chicago Press, 2021), pp. 127–64. For a classic Marxist reading of Darwin's poetry in the historical context of industrialization, see Maureen McNeil, *Under the Banner of Science: Erasmus Darwin and his Age* (Manchester University Press, 1987).

²⁵ James Venable Logan, *The Poetry and Aesthetics of Erasmus Darwin* (1936; repr., Octagon, 1972), p. 126.

²⁶ For insightful and accessible commentary on this and many other aspects of Grainger's text, see [Digital Grainger: An Online Edition of The Sugar-Cane \(1764\)](#).

²⁷ Review of Seward, *Memoirs of the Life of Dr. Darwin*, *Edinburgh Review*, Vol. 4, no. 7 (April 1804): pp. 230–41; see pp. 238–39.

²⁸ This perfect epithet comes from Shaun Irlam's entry for Young in *The Oxford Encyclopedia of British Literature*, ed. David Scott Kastan (Oxford University Press, 2006).

²⁹ Priestman, *The Poetry of Erasmus Darwin*, p. 37.

³⁰ Priestman, *The Poetry of Erasmus Darwin*, p. 36.

³¹ Logan, *The Poetry and Aesthetics of Erasmus Darwin*, p. 130.

³² *LOTP*, Interlude, p. 51.

³³ *LOTP*, Advertisement; ED, *A Plan for the Conduct of Female Education, in Boarding Schools* (1797), p. 41.

³⁴ See, for example, Noel Jackson, "Rhyme and Reason: Erasmus Darwin's Romanticism," *Modern Language Quarterly: A Journal of Literary History* 70.2 (2009): pp. 171–94, and Dahlia Porter, "Erasmus Darwin's Prose of the World: Induction and the Philosophical Poem," in *Science, Form, and the Problem of Induction in British Romanticism* (Cambridge University Press, 2018), pp. 73–112.

³⁵ Porter, "Erasmus Darwin's Prose of the World," pp. 74–5, 92.

³⁶ Priestman, *The Poetry of Erasmus Darwin*, p. 37.

³⁷ Priestman, "Didactic and Scientific Poetry," pp. 402, 419.

³⁸ Anna Letitia Barbauld, "Essay on Akenside's Poem on the *Pleasures of Imagination*," in *The Pleasures of Imagination by Mark Akenside, M. D., to which is prefixed a Critical Essay on the Poem, by Mrs. Barbauld* (1794), p. 1.

³⁹ Lucretius, *De rerum natura* 1.936–50, 4.1–25, trans. W.H.D. Rouse, Loeb Classical Library.

⁴⁰ Barbauld, "Essay on Akenside's Poem," p. 3.

⁴¹ Barbauld, "Essay on Akenside's Poem," pp. 3–4.

⁴² Barbauld, "Essay on Akenside's Poem," pp. 2–3.

⁴³ Joseph Warton, qtd. in David Duff, *Romanticism and the Uses of Genre* (Oxford University Press, 2009), p. 96. In the Advertisement to *Odes on Various Subjects* (1746), Warton objects that "the fashion of moralizing in verse has been carried too far" and fears that his poems will be found "too fanciful and descriptive."

⁴⁴ Porter, "Erasmus Darwin's Prose of the World," p. 78.

⁴⁵ Studies that put Darwin and Knight together include McNeil, *Under the Banner of Science*, pp. 39, 54, 116; Priestman, *Romantic Atheism*, pp. 44–79; and Patricia Fara, *Erasmus Darwin: Sex, Science, and Serendipity* (Oxford University Press, 2012), pp. 43–63.

⁴⁶ "Extracts" from *The Progress of Man* appeared in three issues of *The Anti-Jacobin; or, Weekly Examiner*: No. 15, 19 February 1798; No. 16, 26 February 1798; and No. 21, 2 April 1798.

⁴⁷ Luisa Calè argues that “reactionary propaganda” such as *The Anti-Jacobin* and Richard Polwhele’s *The Unsex’d Females* (1798) tended to lump ED and Knight together with other figures such as Mary Wollstonecraft, William Godwin, and Angelica Kaufmann, as if they were a single hydra-headed author. “‘A Female Band despising Nature’s Law’: Botany, Gender and Revolution in the 1790s,” *Romanticism on the Net* 17 (2000).

⁴⁸ Priestman, *The Poetry of Erasmus Darwin*, p. 37.

⁴⁹ In a letter to his son Robert, dated 17 June 1788, Darwin writes, “I intend next year to revise and correct, and enlarge, and perhaps print my *Zoonomia*,” which suggests a full initial draft had already been completed. Darwin adds, “At present I am writing notes to the first part of the botanic garden” (King-Hele, ed., *Letters* 88-14).

⁵⁰ King-Hele, *Life*, pp. 232, 253.

⁵¹ Anna Seward, *Memoirs of the Life of Dr. Darwin, Chiefly During his Residence at Lichfield, with Anecdotes of his Friends, and Criticisms on his Writings* (1804), p. 125.

⁵² Seward, *Memoirs*, pp. 130–31.

⁵³ Seward, *Memoirs*, p. 166.

⁵⁴ Edgeworth, *Memoirs*, Vol. 2, p. 267.

⁵⁵ King-Hele, ed., *Letters* 81-11.

⁵⁶ King-Hele, ed., *Letters* 81-11. William Sayle was a college friend of Darwin’s, to whom he wrote a poem in 1753, included in *Poems of School and University*, ed. Desmond King-Hele and Stuart Harris (Stuart Harris, 2012), pp. 48–50. Sayle published no poetry and does not appear in the *Oxford Dictionary of National Biography*.

⁵⁷ King-Hele, ed., *Letters* 81-11.

⁵⁸ King-Hele, ed., *Letters* 84-10.

⁵⁹ King-Hele, ed., *Letters* 84-10n.

⁶⁰ King-Hele, ed., *Letters* 84-10.

⁶¹ King-Hele, ed., *Letters* 84-10n.

⁶² King-Hele, ed., *Letters* 90-6, 84-10.

⁶³ These are the only additions, but not the only alterations, to the illustrations between 1789 and 1790. For full details on changes to the illustrations, and to the front matter, from edition to edition, see Appendices 1.1, 1.2, and 1.5.

⁶⁴ King-Hele, ed., *Letters* 89-2.

⁶⁵ King-Hele, ed., *Letters* 84-10.

⁶⁶ Seward, *Memoirs*, p. 131.

⁶⁷ Seward, *Memoirs*, p. 7.

⁶⁸ King-Hele and Harris, eds., *Poems of School and University*, p. 7.

⁶⁹ *London Magazine*, Vol. 20 (1751): p. 325.

⁷⁰ No author name is given in the book. It is sometimes attributed to Charles’s teacher, Dr. Andrew Duncan of Edinburgh, but the style resembles Darwin’s (King-Hele, *Life*, p. 143).

⁷¹ King-Hele, *Life*, pp. 165–66; Teresa Barnard, *Anna Seward: A Constructed Life* (Ashgate, 2009), pp. 118, 122–23.

⁷² *Gentleman’s Magazine*, Vol. 55 (1785): p. 641.

⁷³ King-Hele, ed., *Letters* 88-6.

⁷⁴ King-Hele, ed., *Letters* 75-6.

⁷⁵ See King-Hele, *Life*, p. 401.

⁷⁶ King-Hele, ed., *Letters* 75-6.

⁷⁷ King-Hele, ed., *Letters* 75-6.

⁷⁸ These poems have been collected in *To Elizabeth, with love*, ed. Desmond King-Hele (Stuart Harris, 2008).

⁷⁹ King-Hele, ed., *Letters* 75-7, lines 1–2, 5–8.

⁸⁰ King-Hele, ed., *Letters* 75-7, lines 11–12.

⁸¹ “Idyllium. The Mother, Radburn Grove,” in *To Elizabeth*, ed. King-Hele, p. 32.

⁸² King-Hele, ed., *Letters* 77-7, 78-12.

⁸³ King-Hele, ed., *Letters* 78-12, lines 13-18.

⁸⁴ King-Hele, ed., *Letters* 78-12, line 76.

⁸⁵ Seward, *Memoirs*, p. 147.

⁸⁶ King-Hele, *Life*, p. 208.

⁸⁷ King-Hele, *Life*, p. 136.

⁸⁸ There is also a brief description of the garden in C. E. Stringer, *A Short Account of the Ancient and Modern State of the City and Close of Lichfield* (1819). King-Hele says that Stringer saw the garden in person, but does not explain, or say when (*Life*, p. 150).

⁸⁹ Darwin, *Phytologia*, Part II, Sect. XI.1.3, p. 260.

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- ⁹⁰ Paul A. Elliott, *Erasmus Darwin's Gardens: Medicine, Agriculture and the Sciences in the Eighteenth Century* (Boydell, 2021), pp. 19–32.
- ⁹¹ He did, however, keep the garden until 1800. It was managed by William Jackson, fellow member of the Botanical Society at Lichfield (Elliott, *Erasmus Darwin's Gardens*, pp. 19–20, 30).
- ⁹² Elliott, *Erasmus Darwin's Gardens*, pp. 41, 43, 44.
- ⁹³ King-Hele, ed., *Letters* 78-3.
- ⁹⁴ Jenny Uglow, "Lunar Society of Birmingham," in *Oxford Dictionary of National Biography* (2007; rev. 2017). For a full account of the Lunar Society, see Uglow, *The Lunar Men* (Faber and Faber, 2002).
- ⁹⁵ See Uglow, *Lunar Men*, pp. 275–79.
- ⁹⁶ Watt to Darwin, 12 May 1779, qtd. in King-Hele, *Life*, p. 155.
- ⁹⁷ Darwin's commonplace book is featured online, with selected page images, in the British Museum's [Teaching History with 100 Objects](#) and West Midlands History's [Revolutionary Players: Making the Modern World](#). The original is held, on loan from English Heritage, at the Erasmus Darwin House Museum in Lichfield.
- ⁹⁸ Clive Hart, "Erasmus Darwin's Model Goose," *The Aeronautical Journal* 89.881 (1985): pp. 17–20.
- ⁹⁹ King-Hele, *Life*, p. 187; Erasmus Darwin, *Commonplace Book* (Microform Academic Publishers, 1970), pp. 109, 112.
- ¹⁰⁰ For an entertaining account of the revision of the pamphlet by Wedgwood's close friend and business partner Thomas Bentley, and the resulting heated contestation over flat versus florid style, see Uglow, *The Lunar Men*, pp. 112–14.
- ¹⁰¹ King-Hele, *Life*, p. 136.
- ¹⁰² King-Hele, *Life*, pp. 158–59.
- ¹⁰³ Darwin, *Phytologia* Part II, XI.2.4, p. 271; Plate VII.
- ¹⁰⁴ King-Hele, ed., *Letters* 83-1; King-Hele, *Life*, p. 197. On the Derby Philosophical Society, and for more information about the balloon, see Paul A. Elliott, *The Derby Philosophers: Science and Culture in British Urban Society, 1700-1850* (Manchester University Press, 2009), pp. 69–85.
- ¹⁰⁵ See King-Hele, *Life*, pp. 14, 172–73, 206.
- ¹⁰⁶ Erasmus Darwin, *Address to the Philosophical Society, Delivered at their first Regular meeting, held July 18, 1784*, pp. xii–xiii. Digitized at Derby Local Studies and Family History Library, https://emlib.ent.sirsidynix.net.uk/client/en_GB/search/asset/242/0.
- ¹⁰⁷ Darwin, *Address to the Philosophical Society*, p. xiii.
- ¹⁰⁸ Darwin, *Address to the Philosophical Society*, p. xiii.
- ¹⁰⁹ Seward, *Memoirs*, p. 98.
- ¹¹⁰ Elliott, *Erasmus Darwin's Gardens*, p. 25.
- ¹¹¹ King-Hele, *Life*, p. 61.
- ¹¹² C. Darwin, *Life of Erasmus Darwin*, p. 47.
- ¹¹³ Joseph Wright of Derby, *Sir Brooke Boothby* (1781), Tate, <https://www.tate.org.uk/art/artworks/wright-sir-brooke-boothby-n04132>.
- ¹¹⁴ Janet Browne, "Botany in the Boudoir and Garden: The Banksian Context," *Visions of Empire: Voyages, Botany and Representations of Nature*, ed. David Philip Miller and Peter Hanns Reill (Cambridge University Press, 1996), p. 165; Jacques Zonneveld, *Sir Brooke Boothby: Rousseau's Roving Baronet Friend* (Voorburg 2004), p. 126, quoted in Stephen Leach, "Good Monsieur Melancholy: Joseph Wright's *Portrait of Sir Brooke Boothby*," *British Art Journal* 15.1 (2014): p. 111.
- ¹¹⁵ Brooke Boothby, "Sonnet IV," p. 10; "The First Satire of the First Book of Horace Imitated. To Erasmus Darwin, M. D.," in *Sorrows. Sacred to the Memory of Penelope* (1796), pp. 66–72.
- ¹¹⁶ King-Hele, *Life*, p. 151; Fara, *Erasmus Darwin*, p. 73.
- ¹¹⁷ W. Jackson, *The Beauties of Nature* (1769), p. 41.
- ¹¹⁸ Jackson, *Beauties of Nature*, pp. 37–9.
- ¹¹⁹ Jackson, *Beauties of Nature*, pp. 39–40.
- ¹²⁰ Seward, *Memoirs*, pp. 98–9.
- ¹²¹ *Gentleman's Magazine* 68 (1798): p. 730, qtd. in Elliott, *Erasmus Darwin's Gardens*, p. 26.
- ¹²² King-Hele, *Life*, p. 179.
- ¹²³ For a full discussion of Darwin's translation principles, see Tristanne Connolly, "'Mistaken for Natives of the Soil': Translation and Erasmus Darwin's *Loves of the Plants*," *British Romanticism in European Perspective*, ed. Steve Clark and Tristanne Connolly (Palgrave, 2015), pp. 133–54.
- ¹²⁴ King-Hele, ed., *Letters* 81-8, 81-13, 81-6, cf. 81-5, 81-10.
- ¹²⁵ Seward, *Memoirs*, pp. 76–77; *A System of Vegetables*, Vol. 1, p. xi; see also King-Hele, ed., *Letters* 81-8.

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- ¹²⁶ King-Hele, ed., *Letters* 81-5, 81-8, 81-11, 81-12, 82-2, and 82-3.
- ¹²⁷ *A System of Vegetables*, Vol. 1, p. iv.
- ¹²⁸ King-Hele, ed., *Letters* 81-8, 81-9; *A System of Vegetables*, Vol. 1, pp. vi–x.
- ¹²⁹ King-Hele, *Life*, pp. 181–82.
- ¹³⁰ *A System of Vegetables*, Vol. 1, p. ii.
- ¹³¹ *A System of Vegetables*, Vol. 1, p. v.
- ¹³² *A System of Vegetables*, Vol. 1, p. iii.
- ¹³³ *A System of Vegetables*, Vol. 1, p. iii.
- ¹³⁴ *A System of Vegetables*, Vol. 1, pp. xiv–xl, 26–49.
- ¹³⁵ Transcribed from Erasmus Darwin, *Commonplace Book*, p. 72. Cf. quotation in King-Hele, *Life*, p. 150.
- ¹³⁶ Darwin, *Commonplace Book*, pp. 72–3; see also p. 116.
- ¹³⁷ King-Hele, ed., *Letters* 81-11.
- ¹³⁸ Ann B. Shteir, *Cultivating Women Cultivating Science* (Johns Hopkins, 1996), pp. 2, 4.
- ¹³⁹ Shteir, *Cultivating Women*, p. 151.
- ¹⁴⁰ Shteir, *Cultivating Women*, p. 157.
- ¹⁴¹ Thomas Martyn, *Elements of Botany. Addressed to a Lady. By the Celebrated J. J. Rousseau. Translated into English, with Notes, and Twenty-Four Additional Letters, Fully Explaining the System of Linnæus* (1785), p. v.
- ¹⁴² William Withering, *A Botanical Arrangement of all the Vegetables Naturally Growing in Great Britain* (1776), Vol. 1, p. v.
- ¹⁴³ *A System of Vegetables*, Vol. 1, p. xi.
- ¹⁴⁴ See King-Hele, ed., *Letters* 82-3. For more information on Blackburne, see V. P. Wystrach, “Anna Blackburne (1726–1793) – a neglected patroness of natural history,” *Journal of the Society for the Bibliography of Natural History* 8.2 (1977): pp. 148–68. James Bolton, naturalist and illustrator, created a series of drawings of specimens from her natural history cabinet in 1768, now held at the Yale Center for British Art, and digitized at <https://collections.britishart.yale.edu/catalog/orbis:11411486>.
- ¹⁴⁵ An important study of ED’s relationship to the capitalist and imperialist uses of plants is Alan Bewell, “Erasmus Darwin’s Cosmopolitan Nature,” *ELH* 76 (2009): pp. 19–48. See also the thoughtful rebuttal in Lisa Ann Robertson, “‘Kindred Forms’: Erasmus Darwin’s Posthuman Ethics of Relationality,” *European Romantic Review* 32.5–6 (2021): pp. 551–66.
- ¹⁴⁶ Linnaeus, *Philosophia Botanica*, section 151, referenced in Alexandra Cook, *Jean-Jacques Rousseau and Botany: The Salutary Science* (Voltaire Foundation, 2012), p. 163.
- ¹⁴⁷ Linnaeus, “Ordines Naturales (Natural Orders),” translated by Darwin as part of *The Families of Plants*, Vol. 2, p. 770.
- ¹⁴⁸ For this point, and an excellent overview of the relationship and history of the artificial sexual system and the natural method, see Cook, *Rousseau and Botany*, pp. 158–67, 173–82.
- ¹⁴⁹ Linnaeus, “Ordines Naturales (Natural Orders),” *The Families of Plants*, Vol. 2, p. 770.
- ¹⁵⁰ Darwin, *Phytologia* Part III, XX.1, p. 565.
- ¹⁵¹ Darwin, *Phytologia* Part III, XX.1, p. 566.
- ¹⁵² Darwin, *Phytologia* XX.3, p. 670. For discussion of *LOTP* in the context of the Linnaean and natural systems, see Sophie Laniel-Musitelli, “*The Loves of the Plants* d’Erasmus Darwin: enjeux d’écriture et de traduction,” *Littérature française et savoirs biologiques au XIXe siècle: Traduction, transmission, transposition*, ed. Thomas Klinkert and Gisèle Séginger (DeGruyter, 2020), pp. 17–30.
- ¹⁵³ John Lindley, *A Natural System of Botany* (2nd ed., 1836), referenced in Cook, *Rousseau and Botany*, p. 158.
- ¹⁵⁴ Shteir, *Cultivating Women*, p. 31.
- ¹⁵⁵ For a full history of sex in plants, see Lincoln Taiz and Lee Taiz, *Flora Unveiled* (Oxford University Press, 2017).
- ¹⁵⁶ *Encyclopaedia Britannica; or, a Dictionary of the Arts and Sciences* (1771), Vol. 1, p. 653.
- ¹⁵⁷ *Encyclopaedia Britannica*, Vol. 1, p. 653.
- ¹⁵⁸ *Encyclopaedia Britannica*, Vol. 1, p. 653.
- ¹⁵⁹ George, *Botany, Sexuality and Women’s Writing*, p. 1.
- ¹⁶⁰ Richard Polwhele, *The Unsex’d Females: A Poem, Addressed to the Author of the Pursuits of Literature* (1798), pp. 8–9.
- ¹⁶¹ List, “Sometimes a Stamen is Only a Stamen.”
- ¹⁶² *Monthly Review* 24 (1797): p. 219, qtd. in List, “Sometimes a Stamen is Only a Stamen,” p. 207.

- ¹⁶³ For instance, Alan Bewell, “‘Jacobin Plants’: Botany as Social Theory in the 1790s,” *Wordsworth Circle* 20.3 (1989): pp. 132–39, and Fredrika J. Teute, “The Loves of the Plants; or, the Cross-Fertilization of Science and Desire at the End of the Eighteenth Century,” *Huntington Library Quarterly* 63.3 (2000): pp. 319–45.
- ¹⁶⁴ For instance, Janet Browne, “Botany for Gentlemen: Erasmus Darwin and ‘The Loves of the Plants,’” *Isis* 80.4 (1989): pp. 593–621, and Elizabeth Heckendorn Cook, “‘Perfect’ Flowers, Monstrous Women: Eighteenth-Century Botany and the Modern Gendered Subject,” in *Defects: Engendering the Modern Body*, ed. Helen Deutsch and Felicity Nussbaum (University of Michigan Press, 2000), pp. 253–79.
- ¹⁶⁵ Shteir, *Cultivating Women*, p. 16; Londa L. Schiebinger, *Nature’s Body: Gender in the Making of Modern Science* (Beacon, 1993), p. 17. On the limitations of this argument, see Cook, *Rousseau and Botany*, pp. 166–67.
- ¹⁶⁶ Walpole, To Mary and Agnes Berry, 28 April 1789, p. 11.
- ¹⁶⁷ For a persuasive queer reading of *LOTP*, see Elizabeth Bernath, “‘Seeking Flowers to Comfort Her’: Queer Botany in Blake’s *Visions*, Darwin’s *Loves* and Wollstonecraft’s *Rights of Woman*,” in *Blake, Gender and Culture*, ed. Helen P. Bruder and Tristanne Connolly (Pickering & Chatto, 2012), pp. 111–22.
- ¹⁶⁸ Maja Bondestam, “When The Plant Kingdom Became Queer: On Hermaphrodites and the Linnaean Language of Nonnormative Sex,” *Illdisciplined Nature*, ed. Jacob Bull and Margaretha Fahlgren (Springer, 2016), pp. 7, 121, 124.
- ¹⁶⁹ M.M. Mahood, *The Poet as Botanist* (Cambridge University Press, 2008), pp. 59–60.
- ¹⁷⁰ Mahood, *The Poet as Botanist*, p. 59.
- ¹⁷¹ Wordsworth, Preface to *Lyrical Ballads*, p. 597.
- ¹⁷² Wordsworth, Preface to *Lyrical Ballads*, p. 600; Catherine Packham, “The Science and Poetry of Animation: Personification, Analogy, and Erasmus Darwin’s *Loves of the Plants*,” *Romanticism* 10.2 (2004): p. 197.
- ¹⁷³ Darwin, *The Economy of Vegetation* (1791) I:529n. For commentary on this passage in relation to climate change and ED’s reception, see Siobhan Carrol, “On Erasmus Darwin’s *The Botanic Garden, 1791–1792*,” *BRANCH: Britain, Representation, and Nineteenth-Century History*, ed. Dino Franco Felluga (April 2016).
- ¹⁷⁴ Donna Coffey, “Protecting the Botanic Garden: Seward, Darwin, and Coalbrookdale,” *Women’s Studies: An Interdisciplinary Journal* 31.2 (2002): p. 147.
- ¹⁷⁵ Examples include Seth T. Reno, “Rethinking the Romantics’ Love of Nature,” in *Wordsworth and the Green Romantics: Affect and Ecology in the Nineteenth Century*, ed. Lisa Ottum, Seth T. Reno, and James C. McCusick (University of New Hampshire Press, 2016), pp. 28–58; Robertson, “‘Kindred Forms’: Erasmus Darwin’s Posthuman Ethics of Relationality”; and Amanda Jo Goldstein, “Utopian Pastoral and the Inhuman Trade,” *Romanticism and Political Ecology*, ed. Kir Kuiken, *Romantic Circles Praxis Series* (February 2004).
- ¹⁷⁶ Komisaruk and Dushane, eds., *The Botanic Garden by Erasmus Darwin*, Vol. 1, p. 16.
- ¹⁷⁷ Hannah More, Letter to Horace Walpole, April 1789, in *The Yale Edition of Horace Walpole’s Correspondence*, Vol. 31, p. 295.
- ¹⁷⁸ Richard Polwhele, review of Gilbert Wakefield’s translation of Lucretius, *The Anti-Jacobin Review and Magazine* (March 1800), p. 255. D. M. Moir would express a similar opinion in 1818 (see Appendix 5.20).
- ¹⁷⁹ Wordsworth, Preface to *Lyrical Ballads*, 600.
- ¹⁸⁰ Darwin, *Phytologia* Section XIX.7, p. 558 (see Appendix 3.4).
- ¹⁸¹ *The Temple of Nature* IV:83–8.
- ¹⁸² Robertson emphasizes sympathy as part of her argument that Darwin advocates humans “seeing themselves as part of, rather than apart from, nature”. She finds that, in *The Temple of Nature*, Darwin “connects the lack of sympathy in human society to speciesism.” Robertson, “‘Kindred Forms’: Erasmus Darwin’s Posthuman Ethics of Relationality,” pp. 552, 562.
- ¹⁸³ Denise Gigante, *Life: Organic Form and Romanticism* (Yale University Press, 2009), p. 45. Gigante draws on Peter Hanns Reill who considers “analogical reasoning and comparative analysis” to be the two methods that answered the call of “Enlightenment vitalists” for “a harmonic conjunction that recognized both nature’s unity and diversity”. Reill, *Vitalizing Nature in the Enlightenment* (University of California Press, 2005), p. 8.
- ¹⁸⁴ Walpole, Letter to Mary and Agnes Berry, 28 April 1789, p. 11.
- ¹⁸⁵ Darwin, *The Economy of Vegetation*, Additional Note XXXIX, p. 111.
- ¹⁸⁶ Darwin, *Phytologia* Part III, XIX.7.3, pp. 559–60.
- ¹⁸⁷ Darwin, *The Temple of Nature* IV:447–50.
- ¹⁸⁸ Richard Lovell Edgeworth, Letter to Walter Scott (1812), in *Memoirs of Richard Lovell Edgeworth, Esq. Begun by Himself and Concluded by his Daughter, Maria Edgeworth* (1820), Vol. 2, p. 267.
- ¹⁸⁹ Donald M. Hassler, *The Comedian as the Letter D: Erasmus Darwin’s Comic Materialism* (Martinus Nijhoff, 1973), p. 22.
- ¹⁹⁰ Darwin, *Zoonomia*, III.1.2.11, pp. 372, 374.

¹⁹¹ Walpole, Letter to Mary and Agnes Berry, 28 April 1789, p. 11.