



Romanticism and Victorianism on the Net

Evolution and Literature: The Two Darwins

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Biographical Note

Louise Lee has recently edited *Victorian Comedy and Laughter: Conviviality, Jokes and Dissent* (forthcoming Palgrave 2019), which includes her essay, “George Eliot’s Jokes.” She has published essays on Emily Brontë, Mary Elizabeth Braddon and Charles Kingsley, and with Mark Knight, co-edited *Religion, Literature and the Imagination: Sacred Worlds* (Bloomsbury 2010). At Roehampton, she teaches a third-year course called “Laughing Victorians”.

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I. “Disorganizing Powers”: Reading Charles and Erasmus as Poets

1. It is now a matter of Darwinian mythology that when the 28-year-old Charles Darwin first opened his “evolutionary” notebook in 1837, he deployed the title of his grandfather Erasmus Darwin’s medical treatise, *Zoonomia* (1794-6). By then, Erasmus—poet, doctor, inventor, evolutionist and leading light of the Midlands Lunar Society—had drifted into comparative obscurity; best remembered as the eccentric genius whose work *The Loves of the Plants* (1789) had been notoriously, and brilliantly, burlesqued as *The Loves of the Triangles* (1798). Almost overnight Erasmus went from being one of the pre-eminent poets in the land to a “laughing stock”: a fate that haunted Charles as he wrestled with his own evolutionary theories in the 1840s and 1850s. (Fara 8). Yet Erasmus was a constant, though often spectral, presence in Charles’s imagination, and his writing and thinking acted as both catalyst and antagonist to his grandson’s theories on heredity, variation and sexual selection.
2. This special edition emerged from a conference held in September 2015 at the University of Roehampton, London, “The Darwins Reconsidered: Evolution, Writing and Inheritance in the Works of Erasmus and Charles Darwin.”¹ This is, to our knowledge, the first conference to formally consider the relationship between these two remarkable speculative thinkers, and to attempt to evaluate the nature of that connection. Does the fact of their being so proximate on many evolutionary ideas —“Such is the condition of organic nature! whose first law might be expressed in the words, “Eat or be eaten!” (E. Darwin *Phytologia* 556)—a quotation from Erasmus, that could have been written by Charles, count as mere happenstance; as, perhaps, the kind of biological accident honoured by evolutionary theory itself? Or, are there ways in which we can conjoin these thinkers more decisively, either through environmental factors, or more intriguingly, through an imaginative, ideological or even *poetic*, genealogy?
3. These issues are considered in the first tranche of essays on “**Descent.**” In “Questions of Inheritance: Erasmus and Charles Darwin,” Patricia Fara presents a reply to an intriguing counterfactual question (Evans n. pag.): “Would Charles Darwin have developed the concept of natural selection if he had been born into a different family?” Admitting the problem of “identifying influences,” particularly amid larger debates about historical change which “raged” during Charles’s lifetime, Fara divides her essay between two main strands: the first, concerning intra-familial interactions; and the second, focusing on Erasmus and his grandson as readers of key

texts. Erasmus died in the same year that William Paley’s *Natural Theology* (1802) was published, but he almost certainly read Thomas Malthus’s *An Essay on The Principle of Population* (1798), either in the original, or else, in review, which, in the 1790s, would have included lengthy summaries of the work. Yet while the links between the two men must necessarily remain “speculative,” Fara argues, they “cannot be dismissed.” As she suggests, “whether deliberately or unconsciously, authors often reinterpret their memories, and Charles may have leant on his grandfather’s books and ideas more heavily than he was willing to acknowledge. Certainly, he had been enveloped in them since childhood, and who can know to what extent he looked in the mirror (both literally and metaphorically) as he got older, and saw his father and his grandfather staring back at him?”

4. The uncanny feedback loop that Fara describes above reprises, in part, the “anxiety of influence” model of master-disciple relationship famously defined by Harold Bloom in his seminal 1973 work. (*Anxiety of Influence*, chapter one). While this template is insufficient for obvious reasons—Charles’s status as a man of science, rather than a poet—and also, of course, the fact that Erasmus’s reputation was often highly contested, rather than celebrated, in the nineteenth century, it is useful, and indeed *appealing*, to think of Erasmus’s work talking, in Bloom’s terms, to the “*poet in a poet*” [italics in the original] of his grandson Charles (*Anxiety of Influence* 11). But what might the “poet within a poet” of Charles Darwin look like—and how might he compare to Erasmus’s? Charles’s poetic faculty, specifically, has been little touched on, despite many articles on his prose style, but it is tantalizingly pursued in Devin Griffiths’ “The Fertile Darwins: Epigenesis, Organicism, and the Problem of Inheritance.” Beginning with a consideration of the Darwins’ combined intellectual legacy, Griffiths asks: “Is there a Darwinian imagination?” Contemplating what Erasmus and Charles’s “respective visions” might share “beyond the technical features of their specific theories regarding the world,” he observes that the “common impulses of their imaginations” can be seen in their respective ontologies and “basic presuppositions they shared about how the natural world works.” Moving between the differences between Erasmus’s “epigenetic” theory of reproduction, postulating a single origin for each organism, and Charles’s “pangenetic” theory with multiple origins, Griffiths relates the shift between the Darwins to a broader cultural shift from Romantic organicism to pangenetic ideas still to be developed.

5. But, if we *can* speak of Charles in poetic terms, it might be, taking a lead from Griffiths, in modes of “dis-aestheticization, or better, a negative aesthetic or “ugly feeling” that rewards the effort to look behind the perception of aesthetic unity and perceive what it obscures.”² Acknowledging that both Erasmus and Charles share a fundamentally “anti-programmatic vision of nature” he notes, particularly, “the intensely *disorganizing* power of Charles’s vision.” This is not predicated—to continue the anxiety motif—on a Bloomsian “creative misprision” (a conscious or unconscious re-scripting or misappropriation of the prior poet), but on a distinctive and singular taste in Charles, which is genuinely less androcentric than Erasmus’s, and also more “radically anti-holistic” (*Anxiety of Influence* 11).
6. To illustrate what he means by this, but also to consider the combined legacy of what he calls “thinking with the fertile Darwins,” Griffiths takes up a particularly “poetic and arresting metaphor” used by Charles in *The Variation of Animals and Plants under Domestication* (1868): “Each animal and plant may be compared to a *bed of mould full of seeds* [italics added] most of which soon germinate, some lie for a period dormant, whilst others perish.” Importantly, Griffiths argues, what Charles’s metaphor represents is not “a rejection of aesthetic perception”, but rather a “new understanding of the relation between aesthetic unity and its critical negative moment in the perception of the complex economy of natural patterns.” As Griffiths further observes, Charles is more eager than even his grandfather, and indeed most others, to “go the whole Ourang’—and whole polyp, the whole plant, even the whole ‘bed of mould’.” This delineation of an aesthetic, or dis-aesthetic, which may not be overtly lyrical but nonetheless makes “ugly feeling” its own kind of beauty allows for a repositioning of Charles’s stated loss of interest in reading poetry in his *Autobiography* (1876), when famously, he characterized his “mind” (ironically, in another poetic image) as a “machine for grinding general laws out of large collections of facts” (*Autobiography* 138-139). Yet the logic of Griffiths’s argument suggests that Charles’s relationship with poetry did not end in his later career, but rather suffered a sea-change, becoming more embedded (or seed-bedded) in his work, even if Charles himself does not, or cannot, name the aesthetic.³
7. But while this might apply to his own work, Charles proves a nuanced and cultivated guide to his grandfather’s poetry, as Stuart Harris discusses in his essay, “Charles Darwin’s *The Life of Erasmus Darwin*.” Indeed, if Charles’s *Life*, published in 1879, is often regarded as his first and only foray into biography, it can also be read as a first in literary criticism too. As Harris observes,

Charles read his grandfather’s poetry and poetics both incisively and heterogeneously, able to account for the reasons why—satirical responses to *The Loves of the Plants* aside—Erasmus’s style of poetry was falling out of favour in the late 1790s. Harris draws on Charles’s *Life* in accounting for the shift:

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” (*The Life*, 34).

As Harris also notes, Charles quotes substantially from the critical “Interlude” between cantos one and two of *The Loves of the Plants* and also provides succinct readings of the exigencies of prose and poetry; another way of connecting with, but also differentiating himself from, Erasmus:

And as our ideas derived from visible objects are more distinct than those derived from the objects of our other senses, the words expressive of these ideas belonging to vision make up the principle part of poetic language. That is, the poet writes principally for the eye; the prose writer uses more abstracted terms. (*Life* 34)

The complex placing here of Charles in relation to Erasmus relies on the depiction, as Harris observes, of Erasmus as, pre-eminently, a “great poet” (*Life* 88-9). For Harris, there are highly strategic reasons why Darwin does not include any lines from Erasmus’s crowning evolutionary poem, *The Temple of Nature* (1803), published posthumously: “It is clear that Charles was eager to celebrate his grandfather’s virtues and talents but not to claim him as an important influence on his own scientific development.” Such anxieties, in Bloom’s account, resemble the sixth and final stage (or “revisionary ratio”) of the relationship between two writers; and takes place when the latter opens himself up to the former; allowing for “the return of the dead” in a move Bloom calls “Apophrades”—named after the Athenian belief that the deceased return to inhabit the house they once lived in. Yet, it is determinedly in the house of a dead *poet*—rather than a dead evolutionist—that Charles finally publicly welcomes Erasmus, after a publishing career that began over three decades earlier (*Anxiety of Influence* 15)

II. Epic & L-Shaped: Literary Form as Evolution

8. The relation of literary “**Form**” to evolutionary thought is a central consideration to this special edition, and is the subject of our next two essays. Since Gillian Beer’s groundbreaking *Darwin’s Plots* (1983), it is axiomatic that *The Origin of Species*, and evolutionary theories more generally, have had a major impact on literature; since New Historicism, it is also possible to read Charles’s texts as, in themselves, “literary” in terms of style and narrative structure, and also at the level of metaphor and analogy. And when we turn to the evolutionary texts of Erasmus, the literary connections are even clearer: of his two major statements on the evolution of all species from a single primeval “filament”, the second and fullest is a long heroic-couplet poem, laden with epic conventions and classical allusions. A salient aspect of the relation between form and evolution, however, is the nature of transmission; and all our contributors, whether they subscribe to the “two culture” thesis defined by C. P. Snow, or the “one culture” thesis, adumbrated by Beer and George Levine, share a belief that reading fiction and poetry provided both Darwins with influential narrative templates for the representation of evolution (Snow, *The Two Cultures*, chapter one; Levine *One Culture*, Introduction; Beer “Problems of Description in the Language of Discovery”).
9. Yet, in an intriguing sequential twist to both the modes described above, John Holmes’s “Epic Poetry and the Origins of Evolutionary Theory,” advances the case that epic itself acted as a literary first cause, an imaginative enabler, and a formal softener, for evolutionary thought. While, as Holmes observes, critics and historians of science tend to assume that evolutionary theory came first—and the “evolutionary epic” is the “narrative form in which the history of evolution is ‘retold’” as “interpreting science for the laity”—he shows, rather, how epic furnishes both Darwins with a “crucial stimulus” to the “development of [an] evolutionary counter-narrative to scientific creationism.”⁴ In the case of Erasmus, Holmes asserts, he starts from the point of challenging John Milton’s authority in *Paradise Lost* in *The Temple of Nature*, having “included a brief account of organic evolution in his earlier medical work *Zoonomia* (500-09)”. But, in order “to imagine in detail how this process had shaped the natural world” and “to explore its metaphysical and ethical implications, he reached for [...] epic poetry.” As Holmes continues: “In *The Temple of Nature*, [Erasmus] mobilizes classical epic to conceive of an alternative to Milton’s account of creation. The poets he turns to—Lucretius and Ovid—had themselves

reimagined the possibilities of epic, creating hybrid forms that could encompass didactic verse, materialist philosophy and a rampant narrative impulse that exceeds any single heroic story.”

10. Noting that the relation with epic is “more ambiguous” in Charles’s work, he nonetheless argues that Charles “incorporated Milton’s own counter-discourse into his critique of natural theology,” beginning with “the voice of Satan in *Paradise Lost*” but moving out to contemporary mythopoeia and other defiant voices; ones that can be found, for example, “reverberating too in Byron’s sequel to Milton’s poem, the closet drama *Cain* (1821).” This tension between epic contestation and the creation of new evolutionary theory is further seen in Charles’s work, as Holmes suggests, where “even as he rejected as stultifying Milton’s prohibition against the fruit of the Tree of Knowledge, [he] hybridized the Tree of Life with the ancient Norse myth of Idrasil—informed by his reading of Thomas Carlyle—to form a new and enriching counter-myth which has been the foundation of evolutionary biology ever since.” In describing this retroactive approach to form and evolutionary thought, Holmes also proposes a similar reverse negotiation of the critical-cultural re-reading of scientific theory: “We need to consider the literary sources in play in their inception and their articulation, just as, when studying literary texts, we now habitually consider them alongside their scientific sources.”
11. It is perhaps something of an irony, by Holmes’s account, that while Charles was well acquainted with his grandfather’s poetry, it was actually “Milton’s that he responded to more intensively and creatively.” Nonetheless, by the late nineteenth century, as Martin Priestman argues, in “The Other Darwin’s Plots: Evolution as Literature in Erasmus Darwin, Samuel Butler and George Bernard Shaw,” Erasmus was enjoying a resurgence in popularity as a muse-like figure, ripe for re-appropriation by a number of anti-Charles intellectuals. And here, Priestman describes a different kind of determinedly indirect, but nonetheless significant, model of quasi-genetic Darwinian cultural influence, borrowed from Fredric Jameson via Viktor Shklovsky: that of “L-shaped” transmission. This operates in a series of “knight’s moves” which Jameson describes as a “non-linear jump across the chessboard.” It is a “form of literary history that [...] does not proceed from father to son [...] but rather from uncle to nephew. The development of forms and genres is thus discontinuous and teleological all at once” (Jameson 334; see too Shklovsky 3-4). Both Butler and Shaw considered the new orthodoxies of Charles-centered evolutionism as imaginatively oppressive; and reached back, indeed, turning left one might say, circumventing Charles, to the work of Erasmus and others, for *their* evolutionary arguments allowing more space

for the transmission of willed or learned adaptations. Though Erasmus’s prose treatise *Zoonomia or The Laws of Organic Life, Part One* (1794) is their main acknowledged point of reference, Priestman also notes several L-shaped or “discontinuous but teleological” echoes from his poetry. Thus tropes from his playful *The Botanic Garden* (1791) recur in the imagery of plants and machines as conscious organisms in Butler’s *Erewhon* (1872), and key tropes from the evolutionary *Temple of Nature* (1803) could be seen to underlie Shaw’s futuristic five-play sequence *Back to Methuselah: A Metabiological Pentateuch* (1921), ranging from the programmatic subversion of the Eden myth to an elaborate shared imagery of oracular priestesses and evolutionist temples.

12. Butler’s mounting and, at times, obsessive antipathy, to Charles is well-known, and can most clearly be seen in such Butlerian works as *Evolution Old and New: Or, The Theories of Buffon, Dr. Erasmus Darwin, and Lamarck, as Compared with That of Mr. Charles Darwin* (1879), where, as Priestman observes, he anoints Erasmus, rather than Charles, as a “major evolutionary pioneer” and credits “the great French biologists Buffon and Lamarck with developing a comprehensive theory of evolution long before Charles—though the eighteenth-century Buffon had to disguise his subversive conclusions in a veil of suave French irony”. After considering *Erewhon*’s half-playful Darwinian vision of machines evolving to overtake us, and Erasmus’s more specific influence on that book’s discussion of “the rights of vegetables”, Priestman also argues that Butler’s later novel *The Way of All Flesh* (1903) may owe its strong focus on the hero’s male forebears to one of the 1794 *Zoonomia*’s stranger ideas (though Erasmus later retracted it) – that “the male ‘imagination’ at the moment of sexual conception is held to shape key aspects of the foetus”. Turning to Shaw’s *Back to Methuselah*, as well as many imagistic overlaps with Erasmus’s *Temple*, Priestman also draws some close comparisons between their political contexts of “war – which these authors opposed – and overseas revolution, which they supported”, and between Shaw’s ideas on purposely willed longevity and similar ideas current in Erasmus’s day.
13. A comparison of the science-fictional aspects of all three authors leads Priestman to make some final distinctions. Setting Erasmus and Lamarck in stark opposition to Charles’s pitilessly “mechanistic” principle of Natural Selection, both Butler and Shaw deride the latter as a mere “neo-Darwinism”, limping in Erasmus’s wake. However, Priestman absolves Erasmus from the element of “survival of the fittest” Social Darwinism in Shaw’s exterminationist utopia

Methuselah – which in some ways anticipates his later support for Hitler – and argues that the implicitly eugenicist worries about the sex-drive in both Butler and Shaw owe little to Erasmus’s enthusiastic embrace of sex as Nature’s “*chef d’oeuvre*”.

III. Objectivity Under Pressure: Scientific Method Abroad

14. Erasmus Darwin’s definition of “a fool” was “someone who never tried an experiment in his life”—a view undoubtedly shared by his grandson, even though he may not (publicly, at least) have expressed it in quite such robust terms (Qtd. in *Charles Darwin’s The Life of Erasmus Darwin* 35). But certainly, even in later life, as a much-honored elder statesman of the scientific academy, Charles’s experiments, which included, at one point, playing a bassoon as loudly as possible to earthworms, and also, *shouting* at them (to test their sensitivity to noise), did not easily fall within the purview of increasingly prescriptive high Victorian templates for professional scientific practice; but rather, they reveal an openness, like his grandfather’s, to consider multiple methodologies; even ones that are often strikingly homespun (*The Formation of Vegetable Mould Through the Action of Worms* 12).⁵ Meanwhile Erasmus’s extraordinary, and also, often domesticated, inventions, such as his “speaking machine”—a talking head made from “wood, leather and silk ribbon” which was capable of enunciating simple syllables—mark him as a distinctively brilliant example of an Enlightenment “savant” described in Lorraine Daston and Peter Galison’s 2007 important book *Objectivity* (*Objectivity* 58; Fara 227).⁶
15. But while Erasmus himself is not mentioned in Daston and Galison’s expansive study (and Charles, only briefly—and only twice), new methodological shifts began to emerge in the lifetimes of both Darwins, which saw the formation of the British Association for the Advancement of Science in 1831, and two years later, William Whewell’s definition of “scientist” in opposition to the “artist.” (See Yeo, *Defining Science*, chapter one). While the term “scientist” did not gain currency until the twentieth century, it is on the contested relation of what Daston and Galison call the emergent “epistemic virtue” of “**Objectivity**” to scientific conjecture and theorizing that our final two essays direct themselves, particularly when this newly ascetic and self-denying code of practice is tested beyond the confines of the Darwinian domestic; or more specifically, the gentlemanly study or laboratory (*Objectivity* 39; See also Levine, *Dying to Know*).

16. Tim Fulford’s “‘The very air is a vital essence’: Pneumaticism at the Poles” takes us into other fields to which Erasmus greatly contributed, particularly the pneumatic science of gases—where he and his friend Thomas Beddoes found an enthusiastic disciple in the young Coleridge—and the climate science of the north pole. But, as Fulford suggests, at this time, a new “culture of accurate and dispassionate—“objective”—mensuration [was emerging] in an Arctic that was, for the first time, predictably attainable” and “a technologized Arctic [was] near enough to be reached and subjected to experiment.” But what challenged the authority of “accurate observation (and therefore objectivity)” was when “experiments did not produce predictable results, or failed completely to comprehend their subjects—when the polar air confounded expectations, defied the instruments, and refused to be registered on the calibrated scales.” This not only fissured a major and emergent precept of early nineteenth century methodology but “also inspired fictional narratives that challenged it—and thus called the new science into question.” As Fulford suggests, the north and south poles became increasingly seen as offering “uncanny” challenges to Enlightenment rules of measurement, as seen in Coleridge’s “The Rime of the Ancient Mariner” (1797-8) and Mary Shelley’s *Frankenstein* (1818).
17. In doing so, these texts can be seen as key to introducing what Fulford characterizes as a distinctly darker mood in science, “remodelling Erasmus Darwin’s fictionalisation and poeticisation of scientific discourse for a more vexed and hostile literary context.” As he further notes, “in both texts [*Frankenstein* and “The Ancient Mariner”] it is the polar air, materialising shapes and sounds within and without the body, which becomes a thick medium of uncertainty rather than a transparent window onto truth.” This troublingly illegible and frozen world, with its antipathetic and apparently unnatural laws, presents a striking contrast to Erasmus’s warm-blooded serio-comic model of interpretable science—“the dignified pantomime”—suggested in his notes to *The Temple of Nature* (1803) where he asks:

Might not such a dignified pantomime be contrived, even in this age, as might strike the spectators with awe, and at the same time explain many, philosophical truth by adapted images, and thus both amuse and instruct? (Quoted in Priestman, *Erasmus Darwin* 81)

Instead of a science conceived through Erasmus’s radical-progressivism, as a stately but entertaining visual spectacle, the *un-science* of the Arctic, and by association, the-then uncharted

Antarctic, was profoundly disconcerting and disorienting, unravelling all temporal, geographical and empirical laws: “[The Arctic], where day and night were months long, where the magnetic compass led one wrong, where icebergs loomed out of the fog without warning, remained a place of visual and sonic bafflement, full of airy nothings that materialized and disappeared without warning.” The contrast is further underlined, as Fulford suggests, by comparing Erasmus’s *The Economy of Vegetation* (1791) and *The Ancient Mariner*: “Whereas [Erasmus] Darwin sees speculation, or the playful entertainment of unlikely analogies and incredible scenarios, as a means of making innovative conjunctions that may lead to discovery—to new truths,” Coleridge’s *Mariner* suggests that “belief” or rather untested, but corporeally-realised intuition, seems more trustable than measurable truths. The world is Gothically recast in this configuration, and under such conditions of epistemological duress, knowledge-seeking is found “to be a matter not of play but of compulsion and conviction, transferred from self to self through narrative and locking—enthraling—all in a way of experiencing that produces a reality from which escape by enlightenment is almost impossible.”

18. While, as Fulford suggests, Erasmus’s conception of laughter exhibits a confident Enlightenment exuberance about greeting the world—indeed, as once critic notes, it was a “Lunar [Darwinian] tradition to be light-hearted at every opportunity”—it is cheerfulness that was also underpinned by a more scholarly interest: according to an uncorroborated assertion by his friend, William Stevens, Erasmus expressed his own intention to write, as his final work, “An Examination of Wit.”⁷ Though this tome was never written, Erasmus was reportedly so fond of irony that he also wished to invent a grammatical figure—an inverted question mark—to connote just such a mood (*The Comedian as the Letter D* 22). With the spectral comic genealogy of both Erasmus’s invisible rhetorical accent and unwritten treatise in mind, Louise Lee pursues what Coleridge elliptically terms “scientific wit” in his 1836 lecture, “On the Distinctions of the Witty, the Droll, The Odd and the Humorous,” to consider how this might operate in a visual economy of noticing, particularly in Charles’s first published and most literary work, *Journal of Researches* (1839).⁸
19. As Lee argues in “Charles Darwin’s ‘Scientific Wit’: Incongruity, Species Fixity and the Nonsense of Looking,” many critics have noted Charles’s sense of wonder (Beer, Levine, Amigoni, Schmitt, Browne) in the *Journal*, and his “intensely libidinous imagination” (Beer, “Four Bodies on the Beagle” 20), but his “strange antics” (*Journal* 195) and numerous instances of “amusement” have been treated as little more than biographical gloss, or charming digressions

on the way to a much larger story. Yet, re-reading these understatedly comic episodes through the interpretive prism of incongruity produces a new set of emphases and intellectual and affective affinities. While incongruity is an Enlightenment theory of comedy that is predominantly situational rather than *ad hominem*, it is also one that, as Daniel Wickberg asserts, came to stand for humour itself by the end of the nineteenth century (*Senses of Humor* 8). Figuring the splicing of two previously un-apprehended interpretive frames, a kink in the logic of expectation, incongruity produces its effects, according to Arthur Schopenhauer, by overturning prior theorising with an experiential confrontation with the “real”; a mode which also breaks what he calls the “rigid determinateness of seriousness” (*The World as Will and Presentation* vol 1 93-94).⁹ It can be seen in many moments of Charles’s “amusement” as Lee suggests, for example, “in the height of an elater beetle’s springing jump” (35), or the way a “Graspus crab craftily steals the fish of nesting sea-birds” (10), or the “impetuous manner” in which a “heap” of basking seals “tumble into the water” (346) as Darwin’s boat goes by; or the dramatic manner of giant tortoises, who pull in their heads, hiss and “fall to the ground [...] as if struck dead” as he is walking past them” (465).

20. But, like Michel Foucault’s laughter at the beginning of *The Order of Things* (1966), Charles’s “scientific wit” also has distinctly taxonomic implications. And while some earlier theorists of incongruity, most notably, Immanuel Kant, in *Critique of Beauty* (1790) described incongruity’s cognitive effects as leading to nullity—as the “transformation of tense expectation into nothing”—Lee argues that incongruity is a form of observation that not only provides new foci, but also, importantly, produces and accretes detail. As such, she suggests, it plays an important part in both Darwin’s interspecies imagination and in the formation of his early evolutionary theorising. While Charles later naturalizes, rather than spectacularizes, incongruity into his scientific method—playing bassoons at earthworms is just one example—in its first iteration in the *Journal*, incongruity performs vital cultural and aesthetic work: upturning sublimity and delivering detail and present-ness rather than vastness and transcendental awe. In this regard, as Lee suggests, incongruity also reveals how *troubling* to hierarchies Charles’s imagination is; a propensity shared, undoubtedly, with Erasmus.
21. But, to conclude: how then to account for the extraordinary legacy of the two Darwins? They lived through two tumultuous centuries when what constituted “literature” and what constituted “science” —and more specifically, “evolution”—was radically shifting, and yet both writers drew

plentifully on a dizzying array of imaginative resources, disciplines, and methodologies to body forth their visions of the world, as well as significantly shaping and re-shaping the language, and indeed the literary forms, in which such ideas were spoken about. Perhaps one vital connection between the Darwins though, is their double interest in both sexuality and plant life, which proved fatal to Erasmus’s reputation in the 1790s, but is at the centre of his grandson’s concerns in his later research, as Gillian Beer has recently suggested.¹⁰In this regard, it seems apposite to re-visit the distinctively Darwinian image of intellectual fertility proposed by Griffiths—of the “bed of mould full of seeds.” As Griffiths asserts, we can view Erasmus and Charles through “the many intellectual seeds they helped germinate (only some of which they shared) [which] were outnumbered by the many they did not: the seeds that remained dormant, the many more that never found their way into their respective plots of the intellectual landscape.” It is perhaps a fittingly “counter-elegiac” description of which both might approve.

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² The phrase “ugly feeling” is from Sianne Ngai’s book of the same name.

³ A similar mood is characterized by Adam Phillips, in *Darwin’s Worms* (Faber 1999), as “counter-elegiac.” See Amigoni, “Making Darwin Late” (78).

⁴ The term “evolutionary epic” was first defined by E. O Wilson in *On Human Nature* in 1978, and has been expanded since, as Holmes observes in his essay, but can, and is, deployed for grand narratives of science that often feature biblical creation as well.

⁵ See also David Amigoni’s discussion of Darwin’s experiments with earthworms, in “Making Darwin Late: Later Life and Style in Evolutionary Writing and Its Contexts.”

⁶ In considering the difference between eighteenth and nineteenth century values, they discuss the methodological approach of Linnaeus, as indicative. As they suggest, “nineteenth century botanists would find [Linnaeus’s] pronouncements too pontifical for the ‘self-abnegation’ they demanded of themselves. He, in turn, would have dismissed as irresponsible the suggestion that scientific facts should be conveyed without the mediation of the scientist, and ridiculed, as absurd, the notion that the kind of scientific knowledge most worth seeking was that which depended least on the personal traits of the seeker” (*Objectivity* 58). For differing accounts of the emergence of objectivity in the Romantic period, see Schaffer and Klancher.

⁷ This was the subject of a keynote speech given by Sir Kenneth Calman, “An Examination of Wit: Erasmus Darwin’s Unwritten Book” at the International Conference and Commemoration of the Bicentenary of the Death of Erasmus Darwin, held in Erasmus’s hometown, Lichfield, April 19-22, 2002. See King-Hele 38.

⁸ A phrase which is mentioned, but not elaborated on, in S. T. Coleridge’s 1836 Lecture IX “On the Distinctions of the Witty, the Droll, The Odd and the Humorous.”

⁹ As Schopenhauer notes, “Laughter always arises from nothing other than a suddenly perceived lack of congruence between a concept and the real objects that are in some respect or other thought through it, and it is itself just the expression of this lack of congruence” (*World as Will and Presentation* vol I. 93).

¹⁰ See Beer, “Plant, Analogy and Perfection: Loose and Strict Analogies.”