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Romantic "Ghost Acres" and Environmental Modernity

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Eighteen Hundred and Eleven foretold Britain's ruin in a way that infuriated Anna Letitia Barbauld's detractors and left her friends uneasy. Part of the reason why the poem's prophecy seemed so menacing was its assertion of the nation's present greatness. Barbauld described at length the accumulation of cultural, commercial, and technological prowess since the Elizabethans. She intimated that if, or when, the worst came to pass, Britain had a dismayingly long way to fall. Just before she composed *Eighteen Hundred and Eleven*, she had published an address to the dying George III that anticipated the spirit of the longer poem. "Thy name," she told the king, "has chronicled a long bright page / Of England's story."[1] Future generations might look back on his reign as a lost era of happiness. Even at its most mordant, Barbauld's writing set itself to respond to the apparently prosperous condition of the nation. She sought to develop a poetics that was tonally appropriate to the enlightened sophistication of an era of national prestige.

In this essay I trace some implications for Romantic studies of one interpretation of the Industrial Revolution. That interpretation highlights the ecological constraints on economic growth, and eighteenth- to nineteenth-century Britain's success in displacing those constraints. I seek to show that an environmental understanding of the Industrial Revolution need not mean seeing it as an invasion by mechanised industry of an older pastoral settlement. Instead, I trace a dialectical relationship involving both continuity and discontinuity between the Romantic period and the earlier eighteenth century. Because the Industrial Revolution was enabled by the displacement of environmental constraints on production, it can be understood in part as the extension and intensification of seventeenth-

[1] "On the King's Illness," in *The Collected Works of Anna Letitia Barbauld, Volume 1: The Poems, Revised*, ed. William McCarthy (Oxford: Oxford University Press, 2019), 247–48, lines 30–31. Hereafter *Poems*.

and eighteenth-century technological and commercial improvement to a point at which such improvement appeared dazzlingly new.

Barbauld is an exemplary poet through whom to follow the repercussions for Romantic culture of that dialectic between historical continuity and discontinuity. One of her dialogues for children, "On Manufactures," lauded Josiah Wedgwood, who "has made our clay more valuable than the finest porcelain of China," and "made every saloon and every dining-room schools of taste." "Manchester and Birmingham," she wrote,

> are towns which have arisen to great consequence from small beginnings, almost within the memory of old men now living; the first for cotton and muslin goods, the second for cutlery and hardware, in which we at this moment excel all Europe. Of late years, too, carpets, beautiful as fine tapestry, have been fabricated in this country. Our clocks and watches are greatly esteemed.

In steel manufacturing too "the English have the honour of excelling all the world." Their "flourishing" manufactures testify to "order, peace, and union," and demonstrate that "in this country every one is free to rise by merit."[2]

"On Manufactures" reflects Barbauld's inheritance of the enlightened Dissenting tradition that was an intellectual power source of the Industrial Revolution.[3] In her poetry, however, she evaluated the era of the rise of manufactures in more varied ways. She often did so by scrutinising the modernisation of the English landscape. Poems like "The Invitation" cast an amused eye on the novel structures characteristic of improved environments, and registered the ways in which, despite their novelty, they also testified to continuity with the past. But at other times—notably in the *Epistle to William Wilberforce* and *Eighteen Hundred and*

[2] [Anna Letitia Barbauld], "On Manufactures," in *Evenings at Home; or, The Juvenile Budget Opened*, vol. 2, 103–17 (London: Johnson, 1793).
[3] Ian Inkster, "'Under the eye of the public': Arthur Aikin (1773–1854), the Dissenting Mind and the Character of English Industrialization," in *Religious Dissent and the Aikin-Barbauld circle, 1740-1860*, ed. Felicity James and Ian Inkster, 126–55 (Cambridge: Cambridge University Press, 2011).

Eleven—her ironical appreciation of the changing environment hardened into a perception of contradictions between past and present, likewise made manifest in the landscape. The dialectic whereby growth had endured so steadily as to constitute a break in world history appeared to be at risk of supersession by an outright rupture, fatal to national prosperity.

One symptomatic quality of Romantic ecocriticism has been the field's chronological exclusiveness. The pioneering Romantic ecocritics of the 1990s identified Romanticism as the origin point of modern environmentalism, construing it in opposition to supposedly pre-environmentalist eighteenth-century culture. Much subsequent Romantic-period environmental scholarship has remained preoccupied with that originating thesis, whether it has sought to substantiate, qualify, or contradict it. What explanation did those pioneer critics give for the emergence of ecological sensibilities specifically at that time? From one angle, Romanticism could be admired as a movement of thought that fashioned itself in relative independence from historical circumstances: Rousseau, Wordsworth, Keats, and the Shelleys were inspired visionaries. From another, it could look like a reaction against early industrial modernity. The Romantics were among the first to experience the social and ecological consequences of the Baconian programme of dominion over nature. Those ill effects drove them to formulate an alternative realm of values. Or so the argument ran.

That argument's locus classicus within ecocritical scholarship is James McKusick's reading of Blake. McKusick locates the English Romantics at "the dawn of the Industrial Revolution." Instancing the archetypal claim made by the early Romantic ecocritics, he proposes that "Blake's visionary protest against the Industrial Revolution offers informative parallels to our own ecological concerns."[4] Bacon, Locke, and Newton are the sources of that

[4] James C. McKusick, *Green Writing: Romanticism and Ecology* (New York: St Martin's Press, 2000), 19, 30. (Blake is also "certainly ahead of his time in foreseeing the possibility of global environmental change as a result of large-scale industrial pollution," 102).

revolution's "intellectual infrastructure." Blake is said to have urged his prophecies at once against the mechanistic world-picture and against the actual machinery of London's mills, engines, and kilns, where craftsmanship on a human scale was first subordinated to the brutalising and polluting operations of coal-fired heavy industry.[5]

McKusick gives a highly coloured picture of industrial change in late eighteenth-century England: "to the south of London, primeval oak forests were being cut down . . . that were formerly sacred to the Druids."[6] But his account has similarities with the more cautious starting point of Jonathan Bate: "the industrial revolution of the late eighteenth and early nineteenth centuries is conventionally seen as the period in which technology first wrought a large-scale transformation of social conditions through the harnessing—the consumption—of natural resources, such as coal and iron." "The positive effects of this transformation have been manifold," Bate writes; the negative effects are illustrated by the fact that "this was the period in which the word 'pollution' took on its modern sense."[7] Notwithstanding the difference in tone, McKusick's and Bate's accounts both rest on a familiar assumption. Both understand the Industrial Revolution as a disruptive novelty. The revolution consisted of the intrusion of new technology and industry that overthrew the social and economic order of the earlier eighteenth century. G. M. Trevelyan's "quiet, old England of the eighteenth century before machines destroyed it" is implicitly taken to have been incapable of stimulating an environmental consciousness.[8]

Subsequent years have seen no fundamental advance in thinking about the relationship between Romantic ecopoetics and industrialism. One rewarding aspect of Romantic environmental criticism in the early twenty-first century has been its increased attention to

[5] McKusick, 100–102.
[6] McKusick, 99
[7] Jonathan Bate, *The Song of the Earth* (London: Picador, 2000), 137
[8] George Macaulay Trevelyan, *British History in the Nineteenth Century (1782–1901)* (London: Longmans, 1922), viii

natural philosophy, and notably to Romantic geology, natural history, botany, and agronomy. Those recent studies, however, have not extended beyond natural philosophy proper to discussions of the period's engineering and technology. In ecocriticism, as elsewhere in Romantic studies, the disciplinary boundaries between literary history and economic history have remained virtually impermeable, at least from the former side. Bate waved away the prospect of useful dialogue: "economic historians seem to spend most of their time changing the dates of the industrial and agricultural revolutions, or arguing that they never really happened."[9] This was a mere caricature. Yet in the two subsequent decades, the same disavowal has continued to operate.

There are other ways to interpret the Industrial Revolution, ones that have not yet begun to be explored in the ecocritical literature. Here, I take issue with the assumption that changes in the Romantic-period economy necessarily took the form of encroachment upon mid-eighteenth-century ways of life. My argument does not, however, involve smoothing away the evidence of economic reorganisation during the "classic" Industrial Revolution period beginning in the 1760s and 1770s, in favour of an emphasis on the gradual nature of industrial advance. On the contrary—and although scepticism towards naively catastrophist claims such as McKusick's is no doubt warranted—modern scholarship in economic history underscores the significance of industrial transformation in Romantic-period Britain. The introduction to this collection makes the case for understanding the Romantic period as the era of the "shorter" Industrial Revolution. That framework would, for the first time, place transformations in the culture's economic basis at the heart of Romantic ecocriticism. However, I argue that what is needed is an understanding of the early Industrial Revolution as both a radical discontinuity *and* a radical kind of continuity in Britain's historical development. Thinking about the Industrial Revolution in this way offers a new starting point

[9] Bate, 25.

for Romantic ecocriticism. That starting point provides a basis for acknowledging the binding ties between the literary cultures of the eras before and after the American and French Revolutions, while at the same time it re-articulates the historical distinctiveness of human–nonhuman relations in the Romantic period itself.

The exceptional thing about Britain in the Romantic period was that it sustained its eighteenth-century trajectory of improvement and economic advance to previously unachievable heights. Innovations in technology, transport, colonial governance, workplace organisation, and so on served to perpetuate, on a new basis, a wave of commercial expansion that was already visible by the time of Defoe. Interpretations along those lines appear within traditional accounts of the Industrial Revolution that emphasise market-oriented institutions and cultures of technological innovation. They feature, for instance, in Joel Mokyr's work. Mokyr's analysis is centred on wealth creation through the accumulation and deployment of useful knowledge. He contrasts the experience of eighteenth- to nineteenth-century Britain with other times and places, such as Europe in the fifteenth century, that also saw an efflorescence of technological innovation:

> The Industrial Revolution was above all a beginning. . . . What is truly significant is not the wave of great inventions made in the years between 1765 and 1800, but the fact that this process did not subsequently fizzle out. Some societies, in Europe and Asia, had witnessed previous clusters of macroinventions, leading to substantial economic changes. . . . But the innovative push slowed down eventually. . . . In contrast, the Industrial Revolution went into a higher gear after 1800, not only continuously improving those inventions that had started the movement, but also continuously finding entirely new avenues of innovation.[10]

[10] Joel Mokyr, *The Enlightened Economy: Britain and the Industrial Revolution, 1700–1850* (London: Penguin, 2011), 83–84

Mokyr's understanding of the pattern of Britain's historical experience around 1800—that its "truly significant" feature is the way in which initial developmental tendencies compounded rather than fizzling out—is paralleled in other historiographical traditions. It is articulated in an especially elegant and forceful way by those theorists of the Industrial Revolution who have put land, energy, and resource use at the centre of their analysis. In that sense, it is a conception of the Industrial Revolution that is already native to environmental interpretations of Romantic Britain.

The insight that I wish to bring to bear on Romantic environmental criticism is well expressed by E. A. Wrigley. As Wrigley puts it, "the most important single issue on which to focus in trying to gain a clearer understanding of the industrial revolution is not how the period of more rapid growth began, but why it did not come to an end."[11] He counterposes modern growth to what he calls "organic economies," although since fossil fuels too are organic substances, and since "organic" would be misleading if it were taken to describe social relations as well as their productive basis, "seasonal" or "solar" economies might be more apposite. In the organic, seasonal, or solar economy of sixteenth-century England, production was closely based upon recent plant photosynthesis. Land availability was the principal constraint on economic activity. Land was needed for food, animal fodder, wood (for domestic heating, industrial furnaces, building, and carpentry), textiles (wool and flax), and so on.

Early modern English agricultural improvement was indispensable for expanding urbanization, commerce, and industry, but it did not itself mean an exit from an organic economy with a ceiling on growth.[12] What made England and then Britain unique was a

[11] E. A. Wrigley, *Energy and the English Industrial Revolution* (Cambridge: Cambridge University Press, 2010), 4.

[12] The role of increased agricultural productivity in enabling modernisation by saving on land should not, however, be underestimated. Wrigley imagines a counterfactual scenario in which the English cities and towns of 1800 relied exclusively on firewood rather than coal for domestic heating, and on grain harvests that reflected

sustained, massive increase in coal use. Burning coal deployed a stock of ancient photosynthesis as a substitute for recent photosynthesis. By opening a vertical frontier of resource exploitation, one that freed the land surface for other purposes, it let economic expansion persist. Britain made the transition to a mineral energy economy across the quarter-millennium after 1600. Estimates for England and Wales' annual energy consumption in 1600 are on the order of 76 petajoules (17.4 gigajoules per head). Only 17% of that energy was obtained from coal. The equivalent figure for 1810 is 584 petajoules (57.4 gigajoules per head); 81% of that energy came from coal.[13] Coal became pre-eminent in the energy mix, while decreasing firewood use drove a substantial fall in energy consumption per head from all other sources combined. What did that mean for the land? Wrigley estimates England's arable land area in 1800 at 11.5 million acres (4.65 million hectares; England's total surface size, pasture and unproductive uplands included, is 32 million acres). At that time, on his estimates, replacing all of England and Wales' coal use with wood would have required an impossible 11.2 million extra acres of woodland.[14]

The decisive changes were thus woodland-saving ones and not, as McKusick implied, woodland-consuming. Coal had "given" the nation of *Lyrical Ballads* 11 million additional acres to feed its population with wheat, its post-horses with oats, its cities with timber, and its industry with wool and leather. As Wrigley puts it:

> The strategic significance of coal in the industrial revolution did not consist principally in generating an early momentum, in causing a 'take-off': it lay in the fact that it enabled expansion to continue rather than being brought to a halt by the energy

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the net yield per acre of 1600 rather than 1800. In that scenario, urban England in 1800 would have needed four times as much land for warmth and grain supply—and more of the extra land would have been needed for grain (4.9m acres) than for wood (3.6m acres). Wrigley, *The Path to Sustained Growth: England's Transition from an Organic Economy to an Industrial Revolution* (Cambridge: Cambridge University Press, 2016), 51–53, 60–63.

[13] Paul Warde, *Energy Consumption in England and Wales, 1560–2000* (Rome: Consiglio Nazionale delle Ricerche, 2007), 116–38.

[14] Wrigley, 81, 99.

> constraints inherent in organic economies which forbade sustained exponential growth over a lengthy period.[15]

Wrigley gives less priority than many other economic historians to the "classic" or "shorter" Industrial Revolution that closely coincides with the Romantic decades. His emphasis is on generally steady advance from 1600 to 1850. Most energy-intensive industries, such as glassmaking, brickmaking, forging, ceramics, soap-boiling, and brewing, already relied on coal by 1700. And in coal mining itself, productivity gains were limited: expansion required a multiplying workforce. Nonetheless, two classic industrial innovations of the later eighteenth century are essential to Wrigley's story: the steam engine, and the widespread adoption of coke smelting in the production of wrought iron. They enabled coal to be put to work—in the production of motive power and of a key manufacturing and construction material—where otherwise bottlenecks would have arisen in the transition away from a seasonal economy.[16]

Wrigley concentrates on England's domestic resources. Accounting for international trade directs more attention to the Romantic decades. Kenneth Pomeranz makes the case for a brewing ecological crisis in mid-eighteenth-century Europe, from which England was not exempt. On his pessimistic view, English agricultural productivity largely stagnated after 1750. Deforestation (strikingly manifested in a shortage of shipbuilding timber), soil degradation, and rising grain prices were gathering threats; the prospects for a long-term solution through food and wood imports from within Europe were very imperfect; notwithstanding the much mythologized Norfolk system of crop rotation, "the threat of decline [was] constant."[17] The pressing danger was not so much widespread hunger as a

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[15] Wrigley, 101. See also Siobhan Carroll's essay below.
[16] Even granted that the Romantic decades saw no abrupt increase in the coal industry's rate of growth, between 1775 and 1830 annual British coal output increased by a factor of 3.5, from 8.8 million to 30.9 million (imperial) tons. B. R. Mitchell, *British Historical Statistics* (Cambridge: Cambridge University Press, 1988), 247. These are M. W. Flinn's estimates; Sidney Pollard, "A New Estimate of British Coal Production, 1750–1850," *Economic History Review* ns 33, no. 2 (1980): 229 finds a faster growth rate from a lower starting point.
[17] Kenneth Pomeranz, *The Great Divergence: China, Europe, and the Making of the Modern World Economy* (Princeton: Princeton University Press, 2000), 216. This hypothesis of a crisis averted is controversial, and

developmental cul-de-sac whereby the British economy would be driven on to a path of labour-intensive agriculture in order to conserve its land resources. It was kept away from that path by what Pomeranz calls "unexpected and significant discontinuities in the late eighteenth and especially nineteenth centuries."[18] That is, discontinuities that dialectically preserved the continuity of Britain's urbanising, energy-intensive economic development.

Britain's ecological relief came from the bounty of the New World. Pomeranz emphasises the special character of trans-Atlantic political ecology. Free labourers in the greater Caribbean region would naturally have tended towards non-market, subsistence production of food and clothing, a tendency that would have reduced transoceanic trade flows. Enslaved workers could do no such thing. New World societies based on coerced labour and monocrop agriculture were highly trade-oriented. Land-intensive sugar and cotton fibre flowed out, and British manufactured goods, led by cotton cloth, flowed in.

Pomeranz popularized (although he did not coin) the term "ghost acres" for the land saved by extraction and trade. "Ghost acres" should not be confused with waste lands that are regarded as unused or neglected, and susceptible of future improvement. We might call the latter "dormant acres." A "ghost acre" in Pomeranz's sense is not a real place, but the hypothetical land that *would otherwise* be needed within a given region to produce some resource that is actually obtained by other means.[19] To the 11.2 million "ghost acres" of woodland that Wrigley identified as being provided by English and Welsh coal in 1800, Pomeranz added 1.3–1.9 million acres for the calories imported to Britain in Caribbean sugar. But the biggest

inherently difficult to prove or disprove. See Robert Brenner and Christopher Isset, "England's Divergence from China's Yangzi Delta: Property Relations, Microeconomics, and Patterns of Development," *Journal of Asian Studies* 61, no. 2 (2002): 624–28, 642–47.

[18] Pomeranz, 207

[19] In Rolf Peter Sieferle's striking formulation, in early modern England "land was imported as grain and knowledge was exported as cloth, thus increasing the ecological carrying capacity of the British Isles." *The Subterranean Forest: Energy Systems and the Industrial Revolution*, trans. Michael P. Osman (Cambridge: White Horse Press, 2001), 99.

factor was the cotton that substituted for English sheepfields. British cotton imports increased by a factor of more than 9 between the late 1780s and the late 1820s.[20] Pomeranz estimates that cotton already supplied Britain with nine million ghost acres in 1815; and "if we add [together] cotton, sugar, and timber circa 1830, we have somewhere between 25,000,000 and 30,000,000 ghost acres, exceeding even the contribution of coal by a healthy margin."[21]

Recent work by Dimitrios Theodoridis, Paul Warde, and Astrid Kander has provided the first fully systematic examination of the issues that Wrigley and Pomeranz brought to light. They have sought systematically to quantify Britain's land savings via coal and all significant traded goods, from butter and spices to silk and turpentine, as of 1832. They measure the land embodied in textiles on different principles from those of Pomeranz. That leads them to a much lower estimate for net land saving from cotton. Instead a less familiar material comes to the fore. Potash was produced by dissolving wood ashes in water, and simmering the lye to derive a powerfully alkaline residue that was necessary for industrial soaps and bleaches (used in textile manufacturing), and in glass-making and ceramics.[22] Romantic-period Britain derived most of its potash from North America.[23] Had it, counterfactually, been produced on a sustainable-yield basis, rather than relying on frontier clearance of old-growth forests, some 12.4–15.4 million woodland acres would have been required in 1832 alone. Theodoridis, Warde and Kander also recalculate land saving from coal. Wrigley, they argue, overestimated

[20] Thomas Ellison, *The Cotton Trade of Great Britain* (London: Effingham Wilson, 1886), 86.
[21] Pomeranz, 275–76. Sven Beckert calculates that it took 873,312 acres to grow the cotton needed by British industry in 1820. *Empire of Cotton: A New History of Global Capitalism* (London: Penguin, 2015), 477n28. Pomeranz's much higher figure for ghost acres is because an acre of subtropical cotton plantation produces far more fibre than an acre of British sheepfield. This is the basis of the methodological difference with Theodoridis, Warde, and Kander noted below.
[22] Paul Warde, "Trees, Trade and Textiles: Potash Imports and Ecological Dependency in British Industry, *c*. 1550–1770," *Past & Present* 240 (2018): 47–82.
[23] Compare John Galt, quoted in Eric Gidal's essay below, on "the trade of timber and ashes [as] the first symptom of [an American] settlement having taken root" (0000).

the yield from an acre of British woodland, and so underestimated coal's ghost acreage. Their revised figure for 1832 is, staggeringly, 90–127 million acres.[24]

Theodoridis, Warde, and Kander's work establishes a rigorous basis for an ecological interpretation of the British Industrial Revolution. Economic modernisation relied upon an import/extraction process whereby the land constraint governing seasonal economies was progressively displaced. That displacement was achieved in part by relatively conventional regional trading relations, notably with the afforested hinterlands of the Baltic Sea, from where large volumes of embodied land were exported in potash, tallow, and above all in iron smelted with charcoal.[25] A more dramatic mechanism of displacement was the windfall appropriation of the riches of the Americas. The largest and most fundamental of all was the ancient energy store of the underland.

The elegance and explanatory force of the concept of ghost acreage is no justification for undue simplification. The relief of environmental limits does not automatically cause long-term exponential economic growth. Jason W. Moore accepts Pomeranz's gloomy account of late-eighteenth-century British agriculture, but faults him for treating any looming scarcity "as ecologically-posited rather than created by the contradictions of early modern capitalism itself." "Ecological contradictions," Moore writes, "have played a variable role, sometimes pivotal, but certainly not decisive at *every* juncture. Socio-ecological limits are not given but produced, albeit not under circumstances of one's own choosing."[26] The land-saving effects in Britain of coal extraction, and of land seizure and labour coercion in the New World, were

[24] Dimitrios Theodoridis, Paul Warde, and Astrid Kander, "Trade and Overcoming Land Constraints in British Industrialization: An Empirical Assessment," *Journal of Global History* 13, no. 3 (2018): 342, 347–48. Sieferle, *Subterranean Forest*, 104, puts coal's ghost acreage at 56m acres in the 1820s.
[25] Dimitrios Theodoridis, Klas Rönnbäck, and Werner Scheltjens, "Factor Endowments and International Trade: A Study of Land Embodied in Trade on the Baltic Sea Region, 1750–1856," *European Review of Economic History* 24, no. 4 (2020): 716–35.
[26] Jason W. Moore, "Ecology and the Rise of Capitalism" (PhD diss., University of California, Berkeley, 2007), 291.

integral to the Industrial Revolution. But so too were the social and cultural changes that were braided together with them: the penetration of capitalist relations of production into the English countryside, the sub-national processes of uneven development between towns and counties, and the audacious intellectual culture of Britain's long eighteenth century.

In its turn, the import/extraction of coal, cotton, potash, sugar, timber, and so on was a material basis of that audacious intellectual culture. Land substitution made it possible for Barbauld to speak of "a long bright page / Of England's story." The discursive climate of the Romantic period was conditioned by a generally diffused awareness of national material advance. British Romanticism was a product of a self-consciously expansionary age. In *The Wealth of Nations* Adam Smith mused that England's "commerce and manufactures" had "been continually advancing" since Elizabeth's accession, and that "it is now more than two hundred years since the beginning of the reign of Elizabeth, a period as long as the course of human prosperity usually endures."[27] Yet the succeeding decades did not witness Britain's descent into the stationary condition that Smith feared was the destiny of prosperous nations. Instead, its continuing rise offered at least a pretext for nationalistic bombast like Gillray's caricature of French "liberty" and British "slavery" in 1792. A retrospective gaze over the past century, Barbauld wrote in 1807, "certainly displays a wonderful advance in the arts and sciences, in general information, in wealth, and all those comforts and elegancies of life which are its concomitants, and in which we probably surpass any nation which has ever existed."[28]

William Hardy has reconstructed something like the same dialectic that I have been exploring in eighteenth- to nineteenth-century economic thought. Hardy shows that influential

[27] Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, ed. R. H. Campbell, A. S. Skinner and W. B. Todd, 2 vols (Oxford: Clarendon, 1976), 1:424–25.
[28] [Anna Letitia Barbauld], "Comparison of Manners," *Athenæum* 1, no. 1–2 (1807): 121.

contemporary observers gained "the impression of a major discontinuity in the nation's economic development in the late eighteenth century, marked by the dramatic advance of the cotton manufacture": an impression that became the germ of later accounts of the Industrial Revolution. However, they usually did not treat manufactures as an upstart economic interest that competed with Britain's long-established commercial interests. On the contrary, they continued to regard the nation as one reliant upon external trade. They saw it as becoming "a 'commercial and manufacturing' nation, or even [a] 'manufacturing and commercial nation'."[29] Accordingly, the new manufactures with which they were preoccupied were specifically those oriented towards exports—cotton by far the most prominent—which they interpreted as a prop upon which the national commerce had come to depend. The elements are different, but in crude outline the underlying pattern is much the same. The "major discontinuity" described by Hardy went hand in hand with a continuous trend of commercial growth. Contemporaries saw themselves as living in an expansionary epoch that had taken its rise in an earlier century, whilst also believing that that epoch had lasted so long precisely because a radically new economic organisation had grown up within it, startlingly intensifying its most distinctive characteristics.

Britain's unevenly distributed riches could readily be interpreted as a sign of decadence. Goldsmith denounced a "splendid" but not "happy" land choking on its luxuries, just as Shelley in the *Defence* diagnosed a burdensome "accumulation of the materials of external life," and Carlyle, in *Past and Present*, the "plethoric wealth" of a Midas nation.[30] Rising

[29] William Hardy, *The Origins of the Idea of the Industrial Revolution*, 2nd ed. (Shepperton: Aidan Press, 2014), 45–47. Likewise Barbauld: manufactures require "*ships* and a friendly intercourse with foreign nations to transport commodities, and exchange productions. We could not be a manufacturing, unless we were also a commercial nation." "On Manufactures," 104.

[30] Oliver Goldsmith, *The Deserted Village*, in *Poems and Plays*, ed. Tom Davis (London: Dent, 1975), 179–92, line 268; Percy Bysshe Shelley, *A Defence of Poetry*, in *Shelley's Prose: or, The Trumpet of a Prophecy*, ed. David Lee Clark (Albuquerque: University of New Mexico Press, 1966), 293; Thomas Carlyle, *Past and Present*, ed. Chris R. Vanden Bossche, Joel J. Brattin, and D. J. Trela (Berkeley, CA: University of California Press, 2005), 8.

energy consumption per head did not translate into general prosperity. Romantic-period workers were less well fed and physically shorter than their grandparents in the mid-eighteenth century.[31] But the dog that didn't bark in the Romantic decades was a major subsistence crisis—as opposed to intervals of dearth arising from harvest failure—caused by the period's exceptional demographic growth.[32] The loosening of the restrictions imposed by a seasonal economy was a necessary condition for Britain's economy to grow as it did, in a relatively uninterrupted and eventually accelerating fashion, before and during the Romantic age. The increase in coal production and land-intensive imports in the Industrial Revolution underpins the coherence of the British "long eighteenth century."

Environmental interpretations of Romantic-period writing should carry an awareness that this was an age of growth fuelled by "the dual boons of coal and colonies."[33] Against the assumptions of previous Romantic ecocriticism, however, we should see the revolutionary elements of the Romantic-period economy as dialectically bound to the earlier eighteenth century, not as a new beginning. In their thinking about ecological economy and temporality, McKusick and Bate self-consciously drew inspiration from the ideology of lyric Romanticism. But Romantic lyric's claims to self-sufficing or self-sustaining creative power do not conduce to an analysis of how Britain's environments were sustained by environmental resources appropriated from overseas. Nor does lyric's desire to isolate and memorialise decisive moments provide a ready model for the more gradual process of change that I have been tracing. In the second half of this essay I turn instead to Barbauld, in order to

[31] Charles H. Feinstein, "Pessimism Perpetuated: Real Wages and the Standard of Living in Britain during and after the Industrial Revolution," *Journal of Economic History* 58, no. 3 (1998): 625–58; John Komlos, "Shrinking in a Growing Economy? The Mystery of Physical Stature during the Industrial Revolution," *Journal of Economic History* 58, no. 3 (1998): 779–802.
[32] "The rate of population growth rose to unprecedented heights, peaking in the early decades of the nineteenth century. On past expectation this should have caused a dramatic fall in the real wage . . . The major change that had taken place lay in the absence of a sharp fall in living standards following a population surge." Wrigley, *Path*, 117–18.
[33] Pomeranz, 218.

propose her as an exemplary poet of Romantic-period Britain's gathering industrial and environmental modernity. The diversity of poetic forms of which Barbauld made use—her deployment of topical, occasional, locodescriptive, satirical, and public poetry, alongside lyric modes—helped her to reflect knowingly on the Romantic-era experience of progressive release from the strictures of an organic or seasonal economy. Her poetry often seeks to inhabit its own historical moment in a way that will permit it to report on systemic change.

My argument is that many of the environmental changes that were most significant for British Romanticism took place overseas and underground, from South Carolina to the High Main coal seam of Northumberland and Durham. Yet those off-stage changes had correlates visible to Barbauld in that they helped to make possible the ever-increasing modernization of the English landscape. Barbauld wrote about how improvement brought about more and more unexpected, sometimes spectacular, changes in the physical character of the land. She did so most tellingly in the mode of irony. Barbauld's irony testifies to the combination of continuity and discontinuity that distinguishes the historical experience of the Romantic decades, as Britain ascended an initially well-trodden path of growth to a dizzying height at which parts of its economy became unlike anything previously known.[34] At times she could write about the novelties of improvement with appreciative wryness. In those poems, irony arises from the curiously effective way in which Britain's environmental modernity is reconciled with established realities. In other cases, however, her tone is one of sardonic foreboding. The strangeness of the visible scene seems to bear witness to imminent social fracture and decline.

[34] Reading Barbauld as attuned to epic processes of industrial emergence, my view is at something of an opposite extreme to that of Susan Rosenbaum, who sees her as practising a poetics of "domestic handicraft" ("'A Thing Unknown, Without a Name': Anna Laetitia Barbauld and the Illegible Signature," *Studies in Romanticism* 40 (2001): 372), and congruent instead with Isobel Armstrong, for whom "there is something monumental, massive and oratorically resounding even about [Barbauld's] most domestic productions" ("Anna Letitia Barbauld: A Unitarian Poetics?," in *Anna Letitia Barbauld: New Perspectives*, ed. William McCarthy and Olivia Murphy (Lewisburg: Bucknell University Press, 2014), 62.

One of Barbauld's poems on her alma mater, Warrington Academy, illustrates her most appreciative mode of response to the spread of improvement into new terrains.[35] The academy is among other things a striking oddity. A modern construction on newly broken ground, it nonetheless "aspire[s]" to a status like that of Oxford and Cambridge:

> Far humbler structures here, unknown to fame,
> Fondly aspire to bear the Muses' name;
> No stately piles of Gothic buildings rise,
> Nor antique turrets catch th' admiring eyes;
> These halls, from common ground so lately won,
> Pomona yet remembers them her own.[36]

The poem's ostensible theme is the improbable dissonance between the academy's fostering of "science" and its unpretending physical character. But Barbauld's real point is that its location is actually a very promising one. The collective spirit of the "common ground" and the fructifying vigour of the apple orchard are both welcome inheritances for a place of learning. They promise freshness of thought, just as Oxford and Cambridge's "antique towers" suggest a cobwebbed state of intellect. The changes that have taken place in the academy's landscape bind together incongruity with cohesion, forward-thinking difference with heartening continuity.

A similarly controlled and optimistic irony sustains her "Inscription for an Ice-House." Here too the modernisation of the physical environment has grown to a curious, even fantastical pitch, but it remains accepted as an appropriate consequence of the march of improvement. Barbauld pastiches *The Seasons*. At the North Pole, Thomson had written,

> the grim Tyrant [Winter] meditates his Wrath;

[35] On Barbauld's more conflicted feelings about the academy at other times, and on the industrial character of Warrington itself, see William McCarthy, *Anna Letitia Barbauld: Voice of the Enlightenment* (Baltimore: Johns Hopkins University Press, 2008), 62–65, 86–94.
[36] "Prologue to the Play of Henry the Fourth. Spoken by a Warrington Student in his Morning Gown," *Poems*, 80–82, lines 17–22.

Here arms his Winds with all-subduing Frost;
Moulds his fierce Hail, and treasures up his Snows,
With which he now oppresses half the Globe.[37]

The Seasons traces world-encircling flows of energy and matter. "Inscription for an Ice-House" responds with an impish report on how, in contemporary Britain, those cycles may be paused merely in the interest of culinary enjoyment. In the ice house, two threatening masculine presences are deployed to neutralise one another. The first is Winter himself, emasculated for the length of the summer. Imprisoned underground, he only

Darts sudden frost into the crimson veins
Of the moist berry; moulds the sugared hail:
Cools with his icy breath our flowing cups.[38]

The second presence is the massy architecture of stronghold and dungeon. No longer characteristic of enlightened Britain, that architecture is now made to register the progress of liberty by its redeployment for innocuous ends. The "iron door / Thrice locked and bolted" and the "rude arch" of "ponderous stone" serve the interests of pleasurable indulgence rather than warfare or tyranny (2–3). Perhaps the ice house, like the fortress that it resembles, is a symptom of exorbitant desire, but that desire has been feminised and directed down much safer channels. Reassuringly, too, the ice house's intervention in the climate cycle has no pretensions to permanence. In the poem's final line, Winter readies himself "to rush in whirlwinds forth, and rule the year" (31).

A third, more sustained example of this attitude to the modernising landscape—whereby signs of coherent evolution forestall potential disquiet about the strangeness of the scene—comes when Barbauld writes directly about Britain's novel industrial infrastructure. "The

[37] James Thomson, *The Seasons*, ed. James Sambrook (Oxford: Clarendon, 1981), 244 ("Winter," lines 898–901).
[38] "Inscription for an Ice-House," *Poems*, 208–9, lines 24–26.

Invitation" surveys the Duke of Bridgewater's canal, which pioneered waterway technology in the 1760s:

> Here smooth canals, across th' extended plain,
> Stretch their long arms to join the distant main:
> The sons of toil with many a weary stroke
> Scoop the hard bosom of the solid rock;
> Resistless thro' the stiff opposing clay,
> With steady patience work their gradual way;
> ……
> 'Cross the lone waste the silver urn they pour,
> And cheer the barren heath or sullen moor.
> The traveller with pleasing wonder sees
> The white sail gleaming thro' the dusky trees;
> And views the alter'd landscape with surprise,
> And doubts the magic scenes which round him rise.
> Now, like a flock of swans, above his head
> Their woven wings the flying vessels spread.[39]

It is deeply characteristic of Barbauld's aesthetic project that the canal should be a source of "pleasing wonder." Visitors to the canal like Arthur Young were amazed by James Brindley's aqueduct over the River Irwell at Barton (also discussed in Jon Mee's essay below). Yet the speaker sees more than the "traveller." She also takes in the canal's pastoral context to the west of Manchester. This massive industrial project, built for the transport of coal, is situated amid "fresh verdure, and eternal green." It shares the scene with "the labouring plow," the cut thus reduplicating on a grand scale the ploughman's task (54–56).[40] The navigators, commended for their "steady patience," display the same spirit of responsibility that one

[39] "The Invitation: To Miss B*****," *Poems*, 18–24, lines 57–72
[40] Contrast Penny Bradshaw, "Gendering the Enlightenment: Conflicting Images of Progress in the Poetry of Anna Lætitia Barbauld," *Women's Writing* 5 (1998): 358. Bradshaw detects a "violation of nature" in the digging of the cut that I cannot see.

would wish for in a ploughman, remaining disciplined even as their arms grow weary with digging.

The poem looks directly at the work of the navigators for only a few lines, before they are reformed into naiads pouring out the "silver urn" of waters. At the same time, the canal passes on from verdurous vales to "barren heath or sullen moor." This is the terrain that *Eighteen Hundred and Eleven* will similarly call "the black and barren moor": the peat-moss landscape of Cheshire and south Lancashire.[41] The shift of scene underscores the case for improving interventions. Prosperous fertility is cheek by jowl with natural deficiency. The canal binds unevenly favoured regions together and so promises remediation of inferior territory. The last couplet of the passage makes that promise explicit, as it undertakes a still further abstraction of the workmen's labour:

> The ductile streams obey the guiding hand,
> And social plenty circles round the land. (77–78)

Collective manual effort is now condensed into a singular "guiding hand" suggestive of Bridgewater himself. Commanding and directing, the hand wields authority over both the waters and the workers. The reward is "social plenty," a general circulation of prosperity from vales to heath and beyond that is enabled by the connective ribbon of the canal. The aqueduct lets boats fly through hilly terrain; canals delve into the earth to enter the Worsley mines; and

> meeting streams in artful mazes glide,
> While each unmingled pours a separate tide. (73–74)

[41] *Poems*, 259, line 149. The canal crossed the lowland bog of Sale Moor on an embankment more than two miles in length. Michael Nevell, "Bridgewater: The Archaeology of the First Arterial Industrial Canal," *Industrial Archaeology Review* 35, no. 1 (2013): 12.

The "wonder" in this last case is the delicacy with which the canal has been threaded into the landscape. Without becoming porous to the rivers that it encounters, it weaves a path among them.

Barbauld's sense of this meeting is very different from her brother's. In "The Canal and the Brook. A Reverie," John Aikin imagined a dialogue between a river and the Bridgewater Canal. In Aikin's reverie, the two watercourses are straightforwardly at odds. The canal towering overhead berates the river for his supposed lack of utility. The latter counters with modest but persuasive allusions to his fertilising power and to his fostering of taste and enquiry. The canal's "straight, unvaried line" is opposed to what the canal deprecates as the river's "endless mazes," or what the winding river himself identifies as his "line of beauty."[42] Barbauld, in contrast, makes that same mazy beauty—the "artful mazes" of her poem—a mutually accommodating co-production between canal and river. Their graceful coupling, "meeting" yet "unmingled," illustrates precisely the Barbauldian tendency that I am describing. The aqueduct that enables boats to fly overhead is an instance of the new order's bewildering incongruity with the ancestral state of things. Yet when the canal coordinates its path with the rivers it overleaps, and by doing so, is able better to fulfil its mission of integrating the region's transport routes, Barbauld also finds a way to emphasise cohesion with the past.

Elsewhere, her tone is different. Improvement seems to have reached its limits, and the landscape testifies to the threat of a complete and decisive break in the course of progress. There is another ice house in her poetry, and this later example has a more disturbing significance. It appears in *Eighteen Hundred and Eleven* when that poem's description of present prosperity reaches its most frenetic stage: "London exults:—on London Art bestows /

[42] John Aikin, "The Canal and the Brook. A Reverie," in *Miscellaneous Pieces, in Prose*, by J. and A. L. Aikin (London: Joseph Johnson, 1773), 79–87.

Her summer ices and her winter rose."[43] "Exults" carries here something of its etymological sense of a wild leap, marking the recklessness of the city's overthrow of seasonal difference. In contrast to the situation described in the "Inscription for an Ice-House," this downright inversion of nature's order appears flatly unsustainable.

In the lines that follow, Barbauld diagnoses the state of the realm in uncompromising terms. The urgency of the threat compels a return to the direct apostrophic address to the nation last seen much earlier in the poem: "fairest flowers expand but to decay; / The worm is in thy core, thy glories pass away" (313–14). *Eighteen Hundred and Eleven* has traced Britain's accession, succeeding to the Dutch, to global commercial pre-eminence. The authentic "glories" of its long "expan[sion]" are undeniable, Barbauld indicates. But as of 1811, British growth seems to have entered a decadent and probably final phase. Compared to the Mediterranean heartlands of civilization, the poem says, this frigid island was always an unlikely superpower. Now the underlying constraints are pressing in. In *Eighteen Hundred and Eleven* the incongruities created by the expansionary era of the long eighteenth century, which Barbauld had previously described with ironic admiration, become terminal contradictions deserving of satire.

All of this—the glory, the strangeness, and the fatality—is in large part a matter of the lived environment. The poem takes a panoramic view of ancient and modern ecological transformation. Britain is poised at the high point of a cycle that has revolved many times before:

> now, where Caesar saw with proud disdain
> The wattled hut and skin of azure stain,
> Corinthian columns rear their graceful forms,
> And light varandas brave the wintry storms

[43] *Eighteen Hundred and Eleven, A Poem*, *Poems*, 249–63, lines 305–6.

……

Where once Bonduca whirled the scythed car,
And the fierce matrons raised the shriek of war,
Light forms beneath transparent muslins float,
And tutored voices swell the artful note.
Light-leaved acacias and the shady plane
And spreading cedar grace the woodland reign;
While crystal walls the tenderer plants confine,
The fragrant orange and the nectared pine;
The Syrian grape there hangs her rich festoons,
Nor asks for purer air, or brighter noons:
Science and Art urge on the useful toil,
New mould a climate and create the soil,
Subdue the rigours of the northern Bear,
O'er polar climes shed aromatic air,
On yielding Nature urge their new demands,
And ask not gifts but tribute at her hands. (283–304)

What is being described is a single, complex process, one that involves both the pretentiousness of the veranda and the real dominion over nature. I would like to emphasise the genuine ambivalence in how the poem treats the modernised landscape, its diagnosis of interlinked extravagance and achievement. "Useful toil" is sardonic both to the extent that it misdescribes the leisured self-indulgence in the previous lines and to the extent that the philanthropic aspirations towards climatic amelioration that follow are only fantasies.[44] The "transparent muslins" introduce into the scene the most advanced element of British manufacturing innovation. It is the newly "exquisite delicacy of the cotton manufacture" which produces "that clinging and transparent drapery which now gives such an insight into

[44] The lines envisage a climate reform scheme still more far-reaching than that for which Erasmus Darwin was pilloried in the 1790s; nonetheless, they do not make the scheme sound prima facie absurd. Darwin, *The Botanic Garden: Part 1: The Economy of Vegetation*, 2nd ed. (London: Joseph Johnson, 1791), Canto I, lines 527–46.

the formation of the whole female person."[45] But the dresses, like the verandas, are only good until the weather changes.

For all that, on Barbauld's reckoning these accomplished young ladies really are flourishing in a way that Boudicca's warriors did not. Likewise, Art's labours to "create the soil" are not sheer presumption. They recall the poem's praise of William Roscoe's agricultural improvements to "the black and barren moor" of south Lancashire, referred to above.[46] The pun on "yielding" crystallises these complexities. Nature is being forced dangerously into acquiescence. Nonetheless, she is also "yielding" in the sense that she continues, for now, to furnish genuinely new bounties.

Eighteen Hundred and Eleven's ringing final line—"Thy world, Columbus, shall be free" (334)—confirms that cultivation can only be thought praiseworthy, in the end, if it fosters the growth of liberty. If the ill-conceived verandas show Barbauld's eye for the folly of over-ambitious importations, an earlier poem demonstrates wariness of their illiberal overtones. Describing the birds of Britain, she writes:

> With lovelier pomp along the grassy plain
> The silver PHEASANT draws his shining train.
> ……
> The beauteous captive hangs his ruffled wing,
> Oppress'd by bondage, and our chilly spring.[47]

[45] Barbauld, "Comparison of Manners," 2. On Lancashire cotton manufacturers' intensive programme from the 1770s onwards to outcompete the fabled Dacca muslins, the so-called "woven air," see Maxine Berg, "The Merest Shadows of a Commodity: Indian Muslins for European Markets 1750–1800," in *Goods from the East, 1600–1800: Trading Eurasia*, ed. Maxine Berg et al., 119–34 (Basingstoke: Palgrave Macmillan, 2015), and Alka Raman, "Indian Cotton Textiles and British Industrialization: Evidence of Comparative Learning in the British Cotton Industry in the Eighteenth and Nineteenth Centuries," *Economic History Review*, published electronically January 17, 2022, doi.org/10.1111/ehr.13143.

[46] See E. J. Clery, *Eighteen Hundred and Eleven: Poetry, Protest and Economic Crisis* (Cambridge: Cambridge University Press, 2017), 55–66.

[47] "To Mrs P—, with Some Drawings of Birds and Insects," *Poems*, 39–43, lines 47–54

The pheasant, exiled from the "myrtle shores" of the Caucasus (49), has just the glitzily ornamental appeal that characterises the environment of *Eighteen Hundred and Eleven*. But the predicament of this captive is harder to justify than that of his compeer, the laboratory mouse of "The Mouse's Petition" who risks becoming a sacrifice to philosophical inquiry. A nation that will recruit even pheasants to "bondage" hardly appears reliably committed to freedom. Still, the introduction of species from warmer climes is not necessarily an unfavourable sign for national virtue. In *Eighteen Hundred and Eleven*, the woods made cosmopolitan by acacia, plane and cedar—and dappled by the contrasting habits of those trees' leaves—embody an arboriculture seemingly well suited to a free people. The poem has already noted (lines 91–94) that the shade cast by plane trees (a different species of plane, in this case) fosters the movement of mind. Even the greenhouses that emerge as the most characteristic feature of the new British landscape are not only sites of suspiciously luxuriant exotica. They also express the kind of willingness to nurture delicate forms that is, for Barbauld, essential to the "mutual" but definitely hierarchical gender relations characteristic of ideal freedom.[48]

Progress of the kind seen in *Eighteen Hundred and Eleven* requires a continuous remodelling of the human and nonhuman world. The underlying force that drives that remodelling is the "vagrant Power"—the "Spirit . . . moody and viewless" or "Genius . . . capricious" (215–17, 241–42, 259)—whose identity has puzzled readers since the poem's first publication. To William Keach, Barbauld's invocation of that power is an unwarranted mystification of historical agency.[49] But on a reading that is less committed to the causal primacy of human

[48] I quote from the last line of Barbauld's notorious critique of Wollstonecraft, "The Rights of Woman" (*Poems*, 196–97, line 32). The cultural context of Barbauld's "crystal walls" is elaborated in Deidre Shauna Lynch, "'Young Ladies are Delicate Plants': Jane Austen and Greenhouse Romanticism," *ELH* 77 (2010): 689–729.
[49] William Keach, "A Regency Prophecy and the End of Anna Barbauld's Career," *Studies in Romanticism* 33 (1994): 574. Keach's disapproving Marxian account is truer to the text than Laura Mandell's liberal reading, which gainsays Barbauld's allegations of capriciousness to insist reassuringly that the Power's movements are determined by the presence or absence of despotism. "'Those Limbs Disjointed of Gigantic Power': Barbauld's Personifications and the (Mis)Attribution of Political Agency," *Studies in Romanticism* 37 (1998): 36.

action, the "vagrant Power" can be understood more appreciatively. The poem's implication is that there are historical factors that cannot be reduced to human enterprise: the vagrant Power is less a mystification than a figure for actual mystery. This inhuman, aleatory vagrancy is not only invoked as an interpretive principle, but also present in the texture of the poetry, as Barbauld's syntax plays tricks with the attribution of agency. "Corinthian columns rear their graceful forms" like self-seeded shoots. The conceit of the grapes that might "ask" for their most favourable conditions points to the process of niche-construction by which the fruits create their northerly habitat: the lusciousness of the fruit is the final cause, mediated by a glazier, of the "crystal walls." The personifications of Science, Art, and Nature are more highly charged in this context, for all their conventionality.

Whatever its secret determinants, the vagrant Power has "even now" passed on to the New World (323). The peak of national greatness has been reached or passed. Britain's improbably well-cultivated landscapes must descend to picturesque ruin at best, putrescence and desertification at worst. If both ineluctable fortune and climatic marginality—"stinted suns, and rivers bound with frost" (267)—have been contributing factors, so too has hypocrisy: "O'er want and woe thy gorgeous robe is spread . . . With grandeur's growth the mass of misery grows" (318–20).

Two decades earlier, in the *Epistle to William Wilberforce*, Barbauld had analysed how colonial appropriation and coercion were fostering an ultimately poisonous remaking of the domestic scene:

> Breathing unnam'd perfumes, Contagion springs;
> The soft luxurious plague alike pervades
> The marble palaces, and rural shades;
> Hence, throng'd Augusta builds her rosy bowers,
> And decks in summer wreaths her smoky towers;
> And hence, in summer bow'rs, Art's costly hand

Pours courtly splendours o'er the dazzled land.[50]

The *Epistle* is not altogether specific about how the "Contagion" of Britain's criminality in the East and West Indies corrupts the land even as it enriches it. London's floral ornamentations are described in lines 90–91 as an instance of the "luxurious plague," but taken out of context they could look like a pleasing scene of *rus in urbe*. In a poem on the pleasures of holiday-making at Box Hill, Barbauld treats extra-urban jaunting by "care-wearied cit[s]" with cheery approval:

From the smoke, and the din, and the hurry of town,
Let the care-wearied cit to this spot hasten down,
And, embosom'd in shades, hear the lark singing shrill,
In the cottage that stands at the foot of the hill.[51]

When the motivation is bourgeois comfort rather than aristocratic luxury, the retreat to rural "shades" is a very reasonable alternative to the "smoke" of London. The *Epistle*, by contrast, sees the same division between city smoke and country shades disintegrate in polluting fashion.

It is as if the *Epistle* pre-emptively demystifies the veranda-and-greenhouse landscape of *Eighteen Hundred and Eleven*. The *Epistle* discloses that that landscape is entangled with imperial coercion as well as with *doux commerce*, with traffic in enslaved people as well as with the naturalization of nonhuman biota. It alleges that such a landscape is incompatible with pastoral autonomy: metropolitan finery corrupts rustic "Independence" (*Epistle*, line 102). Whereas *Eighteen Hundred and Eleven* describes a diligent, if in some ways profoundly misguided, pursuit of improvement and elegance, the *Epistle* sharply heightens the emphasis found in parts of the later poem on national complacency. It insists that

[50] *Epistle to William Wilberforce, Esq. on the Rejection of his Bill for Abolishing the Slave Trade*, *Poems*, 183–88, lines 87–93.
[51] "The Cottage that Stands at the Foot of the Hill," *Poems*, 231–33, lines 5–8.

Britain's modernised landscapes are themselves partly the product and expression of indolent, exploitative self-gratification.

Barbauld's ironic fables of improvement, in both their optimistic and their pessimistic forms, reflect upon the critical phase of industrialization of which British Romanticism was in part a product. The poems in which she foresees what the *Epistle* calls the "Nation's fall" (line 116), the disintegration of its expansionary trajectory under the socio-ecological pressures of the Romantic age, must seem to have been in some ways falsified by later events. As it turned out, the constraints on Britain's economic throughput continued successfully to be displaced. Theodoridis, Warde, and Kander show that the land embodied in British imports increased from 1832 to 1907 by some eight- to eleven-fold. Coal output over the same period increased by a factor of eight.[52] To Barbauld and her contemporaries, nonetheless, the changes already undergone seemed dramatic. The heights to which eighteenth-century commercial and manufacturing development had been driven appeared vertiginous. Students of the period—and not least, those concerned with its figurations of the nonhuman environment—must reckon both with the process of ascent to those economic heights, and with the nature of the prospects that they afforded.

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[52] Theodoridis, Warde, and Kander, 346; Mitchell, 248–49.

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