

Ecological Form

SYSTEM AND AESTHETICS

IN THE AGE OF EMPIRE

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AND PHILIP STEER

Editors

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“Form Against Force”

Sustainability and Organicism in the Work of John Ruskin

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Nature is finite. Capital is premised on the infinite.

—JASON W. MOORE, *Capitalism in the Web of Life*

In a recent manifesto in *PMLA*, environmental-humanities scholar Stacy Alaimo critiques the sustainability discourse of the past few decades, noting that it “echoes the discourse of conservation at the turn of the twentieth century, especially in its tendency to render the lively world a storehouse of supplies for the elite.”¹ Alaimo’s analysis does not stretch as far back as the nineteenth century, which is where we can find both the origin of the sustainability concept in its contemporary form and the entanglement of sustainability and colonialism implied in Alaimo’s remark. While the association of the world-as-storehouse-of-supplies idea and imperial exploitation originated with the mercantilists of the sixteenth century (who saw colonial expansion as a solution to the problem of combining economic growth and national protectionism), it reached its full modern articulation in the nineteenth century, when the explosion of European colonization went hand-in-hand with calls for new global markets to stave off economic stagnation.²

In this essay, I will extend, develop, and nuance this critique by tracing the tensions and paradoxes of sustainability discourse back to the nineteenth century, particularly to the work of Victorian art critic, environmental

reformer, and heterodox political economist John Ruskin. An essay on Ruskin might, at first blush, seem an odd bedfellow in a critical volume on ecology and empire in the nineteenth century. Ruskin's views on the British Empire were conflicted at best, openly apologist at worst: He supported Thomas Carlyle's Governor Eyre Defence and Aid Committee after the Morant Bay Rebellion (1865) and, incredibly, managed to avoid any mention of slavery in his aestheticizing analysis of J. M. W. Turner's painting, "Slavers Throwing Overboard the Dead and Dying—Typhoon Coming On" (1840)—which Turner himself was inspired to paint after reading an abolitionist tract. Most notoriously, Ruskin openly advocated colonial expansion in his inaugural address for the Slade Professorship of Art at Oxford University (1870): "And this is what [England] must either do, or perish: she must found colonies as fast and as far as she is able, formed of her most energetic and worthiest men;—seizing every piece of fruitful waste ground she can set her foot on, and there teaching these her colonists that their chief virtue is to be fidelity to their country, and that their first aim is to be to advance the power of England by land and sea."³ The rhetoric of *terra nullius*—(potentially) fruitful *waste* ground—places Ruskin's exhortation firmly in a tradition of apologies for empire stretching back to Thomas More's *Utopia*.⁴

On the other hand, there are several good reasons to turn to Ruskin in order to recover the history of the sustainability idea—not the least of which is that many of the paradoxical characteristics of sustainability that Alaimo highlights are on full display in his work, including the imbrication of economic resource extraction and imperial expansion: "a storehouse of supplies"; "every piece of fruitful waste ground." Ruskin has long been considered one of the founders of the green movement; his screed against industrial pollution, *The Storm-Cloud of the Nineteenth Century* (1884), is the routine starting place for syllabi on Victorian environmentalism, and scholars have been mining his work for precursors to contemporary ecological discourse since the influential studies *Dreams of an English Eden* by Jeffrey Spear (1984) and the edited volume *Ruskin and Environment* (1995)—where Terry Gifford's conclusion explicitly poses the question, "what key concepts [in Ruskin] appear to be useful in our environmental discourse today?"⁵ This foundational work has been developed and expanded in more recent scholarship, including Vicky Albritton and Fredrik Albritton Jonsson's *Green Victorians: The Simple Life in Ruskin's Lake District* (2016), Allen MacDuffie's *Victorian Literature, Energy, and the Ecological Imagination* (2014), and recent essays by Sara Atwood, Siobhan Carroll, and Ella Mershon. As MacDuffie eloquently puts it, Ruskin is a touchstone "for a

whole host of twentieth- and twenty-first-century ecological economists who seek to put . . . environmental concerns at the center of economic and social analysis.”⁶

Yet perhaps the most compelling reason to turn to the work of Ruskin at this particular historical moment is that it can help us better understand our own culture’s investment in the sustainability idea. Ruskin is a resolutely heterodox—even iconoclastic—critic who is nevertheless deeply shaped by the values of his time. More importantly, his work combines elements of heterodox political economy with aesthetic and environmental critique. While several recent ecocritics have pinpointed the origins of our current environmental crisis in imperial capitalism—most recently and notably, Jason W. Moore in *Capitalism in the Web of Life* (2015) and Andreas Malm in *Fossil Capital* (2016)—there has been very little work done on the contributions of nineteenth-century political economy, including its heterodox demand-side critics such as Ruskin, to these histories. In this essay, I will consider Ruskin’s work—in particular, “The Work of Iron, In Nature, Art, and Policy” (1858) and *The Ethics of the Dust* (1866)—in the context of recent developments in environmental criticism, paying particular attention to three critical nodes: organicism, value, and form.

Form and Force

Ruskin’s preoccupation with organicism marks him as an important precursor to contemporary ecocritical discourse. As historian Donald Worster writes about the work of late-twentieth-century environmentalists, “Though they are quick to deny a belief in any nonmaterial or vitalist force in the organism or in the ecosystem, ecologists frequently argue that breaking nature down into its atomistic parts cannot result in a true understanding of the whole.”⁷ In Ruskin’s work, we can see part of the long history of the entanglement of sustainability and organicism, and the roots of current assumptions about the primacy of living matter in the ecosphere—assumptions that have come under recent attack by such critics as Jane Bennett in *Vibrant Matter* and Timothy Morton in his work on dark ecology, and which Ruskin himself implicitly calls into question at key points in his career.

Models of sustainability characterized by metaphors of organic wholeness can be traced back to the eighteenth-century Physiocrats, and deeply influence nineteenth-century economic thinking. The fantasy of a self-contained system where surplus is metabolized in such a way as to nourish and maintain that system is one we find repeatedly throughout Victorian

culture. As Catherine Gallagher discusses in *The Body Economic*, both Ruskin and Charles Dickens imagined a self-sustaining sanitation system in which bodily products, including human waste and even corpses, would nourish further production in a closed and infinite cycle of renewal.⁸ The idea of the biosphere as a self-sustaining, closed-loop system is one to which writers returned continuously throughout the century; in an 1853 essay entitled “The Circulation of Matter,” F. W. Johnston writes, “The same material—the same carbon, for example—circulates over and over again. . . . It forms part of a vegetable to-day—it may be built into the body of a man to-morrow; and, a week hence, it may have passed through another plant into another animal. What is mine this week is yours the next.”⁹

This organicist fantasy of sustainability predicated on the perpetual recycling of waste has been inherited by most contemporary mainstream ecological discourse. According to Michelle Niemann, “The environmentalist emphasis on the re-use of waste . . . is based squarely on the organic metaphor and the way the organic self-enclosure of an ecological unit is instituted as an aim.”¹⁰ Some recent critics and philosophers have embraced the impossibility of closed-loop organicism and attempted to rehabilitate it as an ethics or poetics of excess: Georges Bataille, Henri Lefebvre, and Gilles Deleuze, among others. As Niemann notes, “Implicit in the aesthetics of excess is the contention that, though closed-circle organicism’s containment of decay is seductive, the transgression of that closed circle is, in fact, the organic’s condition of possibility. It is by exceeding itself that the organism thrives.”¹¹ As Bataille argues in Volume 1 of *The Accursed Share*, “The living organism, in a situation determined by the play of energy on the surface of the globe, ordinarily receives more energy than is necessary for maintaining life; the excess energy (wealth) can be used for the growth of a system (for example, an organism); if the system can no longer grow, or if the excess cannot be completely absorbed in its growth, it must necessarily be lost without profit; it must be spent, willingly or not, gloriously or catastrophically.”¹²

Before diving into the specifics of Ruskin’s engagement with organicism and sustainability, it will be helpful to begin with working definitions of both terms. By “organicism” I refer to the ancient doctrine that the universe—and its constituent parts such as ecosystems—are holistic entities that resemble living organisms, particularly in having parts that function in relation to a greater whole. The organicist metaphor can be applied to a wide range of systems, from planets to alluvial plains to corporations to poems.¹³ Organicism is not necessarily the same as—and often rejects—

vitalism, which posits the existence of a nonmaterial force or spirit animating living beings, yet there is often a marked slippage in organicist discourse between the *metaphor* of the system as organism and the idea of the system as functionally “alive.”¹⁴

In recent popular ecological discourse, the term “sustainable” operates in lockstep with “organic” (particularly in the latter’s current meaning of “all-natural,” containing no human-made materials such as synthetic fertilizers and pesticides or genetically modified organisms). “Sustainability,” in current usage, can refer both to economic sustainability—in which case it is most often used to refer to sustainable *development*—and environmental sustainability, which has “weak” and “strong” forms.¹⁵ The definition of sustainable development originally formulated at the World Commission on Environment and Development (WCED) in 1987 is startlingly anthropocentric; it denotes “a set of actions to be taken by present persons that will not diminish the prospects of future persons to enjoy levels of consumption, wealth, utility, or welfare comparable to those enjoyed by present persons.”¹⁶ Since the WCED report, the concept has been refined to distinguish weak sustainability from strong: weak sustainability refers to the maintenance of a stable stock of total capital, both natural and human-made, and thus assumes that the latter can function as a substitute for the former; strong sustainability argues that human-made capital is not interchangeable with natural resources.¹⁷ As this essay will argue, we can glimpse the outlines of a strong sustainability concept—and its inherent paradoxes—in the mid-career economic and environmental writings of Ruskin, whose vision of a vital natural world thoroughly enmeshes organicism and sustainability.

The term “sustainable” was not used in the sense of minimizing environmental impact until 1976, and was not used to mean “capable of being maintained at a certain level” until 1924.¹⁸ Thus, in order to trace the history of the concept, we have to search for analogous notions operating under other names. The question of how to dispose of economic surplus under capitalism divides the classical Ricardian theorists from the pessimistic heterodox critics, including Malthus and Ruskin. Ricardo and his followers insisted on the benefit of capital accumulation for the growth of the economy, and defended this position with an appeal to Say’s Law: “There is no amount of capital which may not be employed in a country, because a demand is only limited by production. No man produces but with a view to consume or sell, and he never sells but with an intention to purchase some other commodity.”¹⁹ Therefore, in the long term, it is impossible for there to be overproduction or overaccumulation of capital

due to a failure of demand: This principle is the bedrock of *laissez-faire* economic policy. Malthus contravenes this law in his *Principles of Political Economy* (1820) when he argues that “reciprocal demand,” or the simultaneous desire of individuals for commodities that can be exchanged for one another, is what determines the value of those commodities, not production or labor costs. Demand is thus no longer a negligible variable that operates in mechanical lockstep with supply; the consequence of this uncoupling is the persistent anxiety that there may be a cataclysmic failure of consumer demand.²⁰ The strong streak of pessimism in Malthus’s work can thus be attributed not only to the theory famously outlined in the *Essay on the Principles of Population* (1798)—that population increases geometrically, while agricultural production “only increases in an arithmetical ratio”—but also to his conviction of human beings’ innate laziness and perverse desire to hoard.

Malthus’s work is the progenitor of a significant heterodox strain in nineteenth-century political economy, which actively critiqued the fantasy of the self-regulating economy; one of the most important of these critics was Ruskin. In “Ad Valorem,” one of the four essays composing *Unto this Last* (1860), his mid-career rebuttal to John Stuart Mill’s *Principles of Political Economy* (1848), Ruskin explicitly defines economic value in terms of “life”: “*Valor*, from *valere*, to be well or strong;—strong, *in* life (if a man), or valiant; strong, *for* life (if a thing), or valuable. To be ‘valuable,’ therefore, is to ‘avail towards life.’”²¹ Ruskin’s insistence on vitality as a determinant of value was an important part of his economic heterodoxy; he was openly critical of the dominant labor theory of value found in Adam Smith and Ricardo. J. A. Hobson, one of Ruskin’s first exegetes, makes the connection between value and organicism explicit as early as 1898: “Biologists and sociologists correlating the processes of organic life . . . are everywhere engaged in giving intellectual form to a science and art of life such as Mr. Ruskin conceived and foreshadowed in his *Political Economy* . . . [H]is ‘value’ is in substantial conformity to this same scientific purpose.”²² Allen MacDuffie notes that for Hobson, Ruskin’s concept of value is essentially identical to the thermodynamic concept of *energy*,²³ a point which Hobson himself makes more or less explicit when he states that by the term “value,” Ruskin refers to “the idea of a physical replacement of energy given out in work.”²⁴

Ruskin’s emphasis on the life-sustaining properties of objects of value underpins his general interest in organicism and organic form, the central feature that draws together his diverse writings on architecture, painting, and drawing; political economy and economic theory; and social policy

and environmental reform. Yet Ruskin seemingly struggles to define exactly what “life” is. He returns to the question repeatedly throughout his writings, yet two different organic “limit cases” are particular objects of his inquiry: crystals and iron. In *The Ethics of the Dust* (1866), a whimsical dialogue in which Ruskin (the “Old Lecturer”) delivers “ten lectures to little housewives on the elements of crystallisation” (the subtitle of the work), Ruskin writes with extraordinary power about the vitality of geological formations:

Agates, I think, of all stones, confess most of their past history Observe, first, you have the whole mass of the rock in motion, either contracting itself, and so gradually widening the cracks; or being compressed, and thereby closing them, and crushing their edges. . . . Then the veins themselves, when the rock leaves them open by its contraction, act with various power of suction upon its substance. . . . [Gases] may be supplied in all variation of volume and power from below; or, slowly, by the decomposition of the rocks themselves; and, at changing temperatures, must exert relatively changing forces of decomposition and combination on the walls of the veins they fill; while water, at every degree of heat and pressure . . . congeals, and drips, and throbs, and thrills, from crag to crag; and breathes from pulse to pulse of foaming or fiery arteries, whose beating is felt through chains of the great islands of the Indian seas, as your own pulses lift your bracelets.²⁵

The “open” veins in the rock exert their terrific “power of suction” in an extraordinary image that makes clear the connection between seemingly “dead” matter and organic life.

Ruskin also makes clear the connection between resource extraction and colonial appropriation. The Indian Ocean had been a site of contention among European colonizing powers since the fifteenth century; by the beginning of the nineteenth, Great Britain had wrested dominance over the region from the Dutch East India Company. The islands Ruskin refers to, most notably Ceylon (now Sri Lanka), remain an important source of gemstones—the Sanskrit name for the Indian Ocean means “jewel mine.” In a beautifully involuted metaphor, Ruskin likens the islands themselves to gems: the “pulse” of the earth’s geothermic energy lifts the ridges of the islands just as the literal pulses of the girls’ veins lift the gemstones of their bracelets. The metaphor thus establishes two different correspondences: between the source of extracted resources (the islands) and the resources themselves (gems); and between the bodies of the girls and

the vital “body” of the earth. Ruskin hints at the holistic nature of the global imperial economy, which brings “fruitful waste ground” under cultivation in order to provide products for consumption at the metropole. The organicism of the metaphor—the blurring of the line between living and non-living, and the insistent repetition of images of blood circulation—bolsters an implicit endorsement of such globalism by associating it with vitality, an endorsement that (from a modern perspective) exists in uneasy tension with the more progressive elements of Ruskin’s economic critique.

Yet both the lecturer and the schoolgirls he addresses worry throughout the text about whether or not crystals are literally alive. The Lecturer’s initial attempt at a resolution yields a definition of life based on *form*:

I do not think we should use the word “life” of any energy which does not belong to a given form. A seed, or an egg, or a young animal, are properly called ‘alive’ with respect to the force belonging to those forms, which consistently develops that form, and no other. But the force which crystallises a mineral appears to be chiefly external, and it does not produce an entirely determinate and individual form, limited in size, but only an aggregation.²⁶

Ruskin had elaborated on this idea a few years earlier, in volume 5 of *Modern Painters* (1860):

The mineral crystals group themselves neither in succession, nor in sympathy; but great and small recklessly strive for place, and face or distort each other as they gather into opponent asperities. The confused crowd fills the rock cavity, hanging together in a glittering, yet sordid heap, in which nearly every crystal, owing to their vain contention, is imperfect, or impure. . . . But the order of the leaves is one of soft and subdued concession. Patiently each awaits its appointed time, accepts its prepared place, yields its required observance. Under every oppression of external accident, the group yet follows a law laid down in its own heart.²⁷

Yet in the later *Ethics of the Dust*, this attempted definition brings an immediate objection from one of the girls—“But I do not see much difference, that way, between a crystal and a tree”—followed by the Lecturer’s response, “Add, then, that the mode of the energy in a living thing implies a continual change in its elements; and a period for its end. So you may define life by its attached negative, death; and still more by its attached positive, birth. But I won’t be plagued any more about this, just now; if you choose to think

the crystals alive, do, and welcome.”²⁸ The felt force of distinction between trees and crystals so apparent in the earlier text is brought sharply into question here.

This moment is repeated later in *Ethics*, when another girl complains, “You always talk as if the crystals were alive; and we never understand how much you are in play, and how much in earnest,”²⁹ to which the Lecturer responds, “Neither do I understand, myself, my dear, how much I am in earnest. The stones puzzle me as much as I puzzle you. They look as if they were alive, and make me speak as if they were; and I do not in the least know how much truth there is in the appearance What is it to be ‘alive’?”³⁰ When pressed, he returns to the question of form in a gnomic utterance: “You may always stand by Form, against Force.”³¹ Since external forces—such as geological pressure—can also appear vital, the only way to distinguish the life force from others is that the former “develops that form [of the body in which it inheres] and no other.”³² As James Clark Sherburne notes, Ruskin here restates the “Romantic distinction between ‘organic’ and ‘mechanical’ form.”³³ Coleridge’s distinction between mechanical form, which is imposed from without, and organic form, which is generated from within, “leads in turn to the crucial one between ‘mechanical’ and ‘vital’ philosophy. The former knows only of ‘the relations of unproductive particles to each other.’ It can hold good only for a ‘dead nature.’ In an organic or vital philosophy, elements ‘actually interpenetrate’ one another to form a living whole.”³⁴

As Mershon argues in a recent essay on *The Ethics of the Dust*, for Ruskin the “promise of mineralogical renewal assuages fears about resource depletion.”³⁵ The vitalism of crystals in the Ruskin text is thus marked by both “promise” and “fear,” as well as being very much of a particular cultural moment: in the 1860s, scientific debates were raging over the organic states of recently discovered liminal forms, and therefore “it was not always clear whether something was dead or alive.”³⁶ The implication is that in *Ethics of the Dust* Ruskin tethers the rhetoric of a particular moment in scientific history—a moment of intense debate over the difference between the organic and inorganic—to a broader optimistic argument about what I would term environmental sustainability. For Mershon, *Ethics of the Dust* enacts a fantasy “wherein scant resources are limitlessly recycled and reborn,”³⁷ a fantasy in which “the stakes . . . are nothing less than the expenditure of planetary resources and the annihilation of the human species.”³⁸ For Mershon this moment in Ruskin is short-lived, as he soon returns to his usual grumpy predictions about environmental catastrophe, culminating in the apocalyptic vision of *The Storm-Cloud of the Nineteenth*

Century a couple of decades later. Yet I would argue that Ruskin's commitment to the porosity of the life-nonlife border is more intractable, recurring throughout his own work and aligning with a much longer line of thinking throughout European intellectual history.³⁹ Furthermore, Ruskin's insistent deconstruction of the boundary highlights inherent paradoxes in the sustainability concept as it has developed since the Victorian period.

Rather than simply sidestepping the question of whether crystals are life or non-life, the Lecturer forcefully argues *that the question is undecided*; in other words, it is not an open-ended question that is currently under debate and potentially will be decided at some future time of greater scientific knowledge, but instead constitutes an incorrectly framed question to begin with. As one of the girls pointedly asks, "It is very delightful to imagine the mountains to be alive; but then,—are they alive?" The Lecturer responds, "You may at least earnestly believe, that the presence of the spirit which culminates in your own life, shows itself in dawning, wherever the dust of the earth begins to assume any orderly and lovely state. You will find it impossible to separate this idea of gradated manifestation from that of the vital power. Things are not either wholly alive, or wholly dead. They are less or more alive."⁴⁰ Not only does the Lecturer abandon his earlier gesture toward a definition of life based on form—anywhere "the dust of the earth begins to assume any orderly and lovely state" is a manifestation of the same "spirit" which gives external form to the girls themselves—but he strongly suggests that this "vital power" is present in things that are normally not considered life, and that in fact there is no meaningful distinction between any one object with an ordered form and any other, in terms of vitality. Ruskin has moved here from a working definition of life based on a particular kind of form to a claim that *any* ordered form (particularly if it is aesthetically pleasing) can be considered life.⁴¹

Sherburne notes that Ruskin's category confusion—or more properly, category refusal—which manifests itself as his "ambiguous use of the word 'vital,'" is "rooted in the Romantic tradition's unwillingness to accept a material organicism."⁴² We can see in Ruskin's work the grinding edges of two conceptual tectonic plates: a vitalist (or at least anti-mechanistic) tradition that is the legacy of Romanticism, and post-Darwinian materialism. As George Levine argues, "[D]espite Ruskin's obvious passion for the natural world, manifested . . . in the almost mad precision of his observation of the texture of flowers and clouds and of the movements of water and glaciers, he retained . . . something of the deep Christian distrust of materiality."⁴³ In other words (as I would argue), in attempting to finesse his

“Christian distrust of materiality,” Ruskin, perhaps inadvertently, reintroduces a different kind of materialism, which manifests itself in an unwillingness to distinguish the organic and the inorganic.⁴⁴

This unwillingness is one which many recent ecocritics share. Bennett, in her book *Vibrant Matter*, poses the salient question, “[C]an nonorganic bodies also have a life? Can materiality itself be vital?”⁴⁵ In her inquiry she begins with Gilles Deleuze’s short essay, “Immanence: A Life,” which posits the existence of “*a* life,” an indeterminate vitality or “immanent life that is pure power.”⁴⁶ Bennett goes on to cite *A Thousand Plateaus*, where Deleuze and Félix Guattari “name metal as the exemplar of a vital materiality; . . . it is metal, bursting with *a* life, that gives rise to ‘the prodigious idea of Nonorganic Life.’”⁴⁷ For Bennett, this characterization is possible because *a* life is “an activeness that is not quite bodily and not quite spatial, because a body-in-space is only one of its possible modalities. . . . This is the activity of intensities rather than of things with extension in space.”⁴⁸ Vital materialism depends on a kind of “theory of relativity” as she terms it, wherein “the stones, tables, technologies, words, and edibles that confront us as fixed are mobile, internally heterogeneous materials whose rate of speed and pace of change are slow compared to the duration and velocity of the human bodies participating in and perceiving them. ‘Objects’ appear as such because their becoming proceeds at a speed or a level below the threshold of human discernment.”⁴⁹

Bennett is also concerned with the margins of life. Metals, for example, owe their particular properties, as well as their “metallic vitality,” to complex systems of cracks that are caused by loose atoms at the edges of the regular lattice of their structure, which is made up of crystalline “grains”: “The line of travel of these cracks is not deterministic but expressive of an emergent causality, whereby grains respond . . . to the idiosyncratic movements of their neighbors . . . in feedback spirals.”⁵⁰ Ruskin is also interested in the function of dynamic cracks in rock, metal, and crystal, locating in them the geological force that he refuses to differentiate from vitalism: “Observe, first, you have the whole mass of the rock in motion, either contracting itself, and so gradually widening the cracks, or being compressed, and thereby closing them, and crushing their edges,—and, if one part of its substance be softer, at the given temperature, than another, probably squeezing that softer substance out into the veins.”⁵¹ Ruskin, like Bennett a century and a half later, is concerned with the life-force of materials that we ordinarily think of as inorganic, in this case considering how cracks and fissures within their crystalline structure form vital systems, liminal spaces at the boundary of life.

Air and Iron

Ruskin's fascination with the vitality of inorganic matter is most clearly demonstrated in an 1858 lecture entitled "The Work of Iron, In Nature, Art, and Policy." He begins the lecture with a striking image of the vitality of iron: "You all probably know that in the mixed air we breathe, the part of it essentially needful to us is called oxygen; and that this substance is to all animals, in the most accurate sense of the word,—breath of life. . . . Now it is this very same air which the iron breathes when it gets rusty. It takes the oxygen from the atmosphere as eagerly as we do."⁵² Yet only *rusted* iron demonstrates this extraordinary principle of animation—"iron rusted is Living; but when pure or polished, Dead"⁵³—because it is the interaction of iron and air that causes the rusting process; rust is a sign or index of vitality.

Iron also has a crucial aesthetic function: In the form of ferrous oxide, it dyes the veil of nature and the human-made products that are fashioned from it; it brings aesthetic (especially painterly) pleasure in the form of purple hillsides, picturesque red and crimson roof tiles, even a blush upon a cheek. Both the vitality and the beauty of iron are thus contingent upon its interaction with oxygen. Ruskin imagines a poetic merger between air (or spirit) and iron (or body): "[W]hat I wish you to carry clearly away with you is the remembrance that in all these uses the metal would be nothing without the air. The pure metal has no power."⁵⁴ All the useful and aesthetic functions of iron are dependent on its being both vital—having a life cycle and the capacity for change that is indicated by rust—and part of a larger system of decay and renewal.⁵⁵

That aesthetic function of iron is, for Ruskin, every bit as important as its purported use value; in fact, more so: "[W]e suppose it to be a great defect in iron that it is subject to rust. . . . On the contrary, the most perfect and useful state of it is that ochreous stain; and therefore it is endowed with so ready a disposition to get itself into that state. It is not a fault in the iron, but a virtue, to be so fond of getting rusted, for in that condition it fulfils its most important functions in the universe."⁵⁶ Ruskin insists throughout the lecture that his listeners radically rethink their own relationship to iron and other "natural resources"; we must resist the common way of thinking that, because we "cannot use a rusty knife or razor so well as a polished one," there is something defective in rusty iron.⁵⁷ The moment of aesthetic appreciation—the perverse beauty of rusted iron, and the recognition of the role that oxygenated iron plays in the colorful beauty of natural landscape—opens a way toward questioning an instrumental relation to nature.

This is an idea we see throughout Ruskin's work. In a famous passage from *Proserpina*, he writes, "The flower exists for its own sake,—not for the fruit's sake. The production of the fruit is an added honour to it—is a granted consolation to us for its death. But the flower is the end of the seed."⁵⁸ Levine notes of this particular passage, "Here, boldly and unapologetically, is the assertion of a value other than use value—an aesthetic value."⁵⁹ Levine goes on to insist, however, on the inextricability of aesthetic value and instrumentalism: "[I]n the end for Ruskin everything valuable is valuable insofar as it relates to the human, and the 'non-utilitarian' beauty of the flower is an aspect of the possible moral redemption of man that art (and correct observation) can offer. The whole passage makes clear that the end product is for us."⁶⁰ Yet Levine's deconstruction of the distinction between aesthetic and instrumental value does not do full justice to Ruskin's painstaking attempts to limn their differences—attempts that span his entire career. More importantly for the purposes of the current argument, the strong strain of vitalist organicism in Ruskin's writings coexists in uneasy relation to his claims for the priority of human uses of nature. Furthermore, it is precisely this organicism that, as this essay has been attempting to demonstrate, undergirds what we might think of as his sustainability discourse. Ruskin's emphasis on life as the determinant of value, along with his unwillingness to limit the capaciousness of life (rhetorically extending it to iron, crystals, minerals, rust), form the basis of his critique of the instrumental view of natural resources: "It is ourselves who abolish—ourselves who consume: we are the mildew, and the flame."⁶¹

Where Ruskin's strong sustainability discourse differs from that of contemporary ecologists is in his emphasis on abundance: "[T]he great and only science of Political Economy teaches . . . the service of Wisdom, the lady of Saving, and of eternal fulness; she who has said, 'I will cause those that love me to inherit SUBSTANCE; and I will FILL their treasures.'⁶² As Gill G. Cockram notes, "In Ruskin's economic utopia, the emphasis was on a form of post-capitalist organicism. . . . He had no time for Malthusian notions of a scarcity of resources."⁶³ Sustainability for Ruskin is not a matter of managing insufficiency, but rather of allocating profusion. As a demand value theorist, his visions of apocalyptic economic failure are characterized by stagnation and gluts brought on by hoarding and insufficient consumption, not by paucity or exhaustion. As David M. Craig argues, Ruskin's focus on "a wealth of the best goods shared among fully developed people" marks him as an heir to the physiocrats; he likewise "always returns to land, agriculture, and food as the 'natural' basis for all wealth."⁶⁴

It is the vision of nature as a storehouse of value that connects Ruskin with some versions of contemporary sustainability theory; the organic metaphor carries with it—however inadvertently or unconsciously— notions of fecundity and infinite renewability. In “Ad Valorem,” Ruskin explicitly tethers the notion of renewability to economic *and* aesthetic value: “it will be found at last that all lovely things are also necessary;—the wild flower by the wayside, as well as the tended corn; and the wild birds and creatures of the forest, as well as the tended cattle; because man doth not live by bread only, but also by the desert manna.”⁶⁵ This utopian vision is underwritten by a fundamental sense of the earth’s resources as inexhaustible *because* inexhaustibility is the only version of nature fitted to human needs:

Men can neither drink steam, nor eat stone. . . . [T]he world cannot become a factory nor a mine. No amount of ingenuity will ever make iron digestible by the million, nor substitute hydrogen for wine. . . . [H]owever the apple of Sodom and the grape of Gomorrah may spread their table for a time with dainties of ashes, and nectar of asps,—so long as men live by bread, the far away valleys must laugh as they are covered with the gold of God, and the shouts of His happy multitudes ring round the winepress and the well.⁶⁶

Notably, these valleys are “far away”: the “fruitful waste ground” of the colonies to which Ruskin—and capitalism itself—has constant imaginative recourse. As Moore points out, the “endless frontier strategy of historical capitalism is premised on a vision of the world as interminable: this is the concept of capital and its theology of limitless substitutability.”⁶⁷ Yet the passage is also complex and contradictory in ways that push beyond the simple “storehouse of resources” argument standard to nineteenth-century political economy. As MacDuffie points out, the passage actually underscores Ruskin’s “apprehension of natural limits” because it constitutes a “critique of the idea of substitutability.”⁶⁸ While the sum total of the stock of natural resources is rhetorically figured as inexhaustible, individual resources are not: Iron is not food. As Moore goes on to argue: “At best, substitutability occurs within definite limits, primarily those of energy flows and the geographical flexibility they offer. The history of capitalism is one of relentless flexibility rather than endless substitutability.”⁶⁹ The paradox of Ruskin’s sustainability discourse—to which the contemporary version is heir—is that its organizing metaphor of organicism, by its very nature, combines anxieties about exhaustibility with utopian visions of infinite plenitude.

Jessica Maynard draws a parallel between Ruskin's emphasis on abundance and the work of twentieth-century anthropologist and economic philosopher Georges Bataille. As I noted earlier, Bataille challenged the recuperative model of closed-loop sustainability by crafting a perverse poetics of excess that celebrates (or at least emphasizes the inevitability of) waste, extravagance, and sumptuary expenditure. For Maynard, this impulse can be traced back to the 1850s; both Bataille and Ruskin, particularly in his discussion of Gothic ornament in *The Stones of Venice*, distinguish between instrumental consumerism "and a second order of consumption that for both is sacrificial, resolutely non-utile in its effects."⁷⁰ Most importantly, Maynard underscores the connection I have been insisting on between Ruskin's vitalist organicism and his ethics of consumption, an ethics that emphasizes abundance rather than scarcity: "the sacrificial impulse in his thought might also be related to a dialectical vision of what he calls 'the life of this world.'"⁷¹

That dialectic is ubiquitous for Ruskin—it is present in both the "changing forces of decomposition and combination" in crystal formation and the bloom and decay of iron. Levine claims that Ruskin's unwillingness to accede to a gross materiality "issues in that astonishing rhetoric that humanizes everything, crystals, leaves, clouds, water."⁷² Yet the concomitant of such a rhetoric is a persistent questioning of the boundary not between the human and non-human, but rather between the alive and the inert. Everywhere there is ordered form, for Ruskin, there is a type of "life." While one might argue that for Ruskin it is the uniquely human prerogative to perceive form and thus humanity as the guarantor both of vitality and of an instrumental relation to nature, this essay has attempted to demonstrate that Ruskin's pronouncements on this question are so complex—indeed contradictory—as to indicate a real struggle on his part to distinguish human use value from the abstract value of the natural world. This tendency is perhaps the most troubling aspect of sustainability discourse inherited from Ruskinian political economy—as Alaimo puts it, the way in which that discourse "epitomize[s] distancing epistemologies that render the world as a resource for human use."⁷³ However, this tendency is the shadowy obverse of a more potentially critical and liberatory strain of thought; Ruskin's refusal of categorical distinctions between living and non-living is also, arguably, the source of the realization that Alaimo describes as "the recognition that one's very self is substantially connected with the world."⁷⁴ In both his instrumental and his epiphanic modes, Ruskin is a sustainability theorist *avant la lettre*.

Notes

1. Stacy Alaimo, "Sustainable This, Sustainable That: New Materialisms, Posthumanism, and Unknown Futures," *PMLA* 127, no. 3 (2012): 558.

2. The theory that gluts and stagnation are inevitable without foreign market expansion can be traced back as far as French political economist Jean Charles Léonard Simonde de Sismondi in his *New Principles of Political Economy* (1819). Marxist critics have tended to follow in the footsteps of both Marx and Lenin in agreeing that imperial expansion is a necessary corollary of capitalism. See, for example, the discussion of capitalist/colonial/environmental expansion, particularly the notion of the "frontier," in Jason W. Moore, *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (New York: Verso, 2015), 63.

3. John Ruskin, *Lectures on Art*, in *Lectures on Art and Aratra Pentelici, With Lectures and Notes on Greek Art and Mythology 1870*, vol. 20 of *The Works of John Ruskin*, ed. E. T. Cook and Alexander Wedderburn (London: George Allen, 1905), 42.

4. For a discussion of the source of the *terra nullius* concept in More, see Carol Pateman, "The Settler Contract," in *Contract and Domination*, ed. Carole Pateman and Charles Mills (Malden, Mass.: Polity Press, 2007), 35–78.

5. Terry Gifford, "Conclusion," in *Ruskin and Environment: The Storm-Cloud of the Nineteenth Century*, ed. Michael Wheeler (Manchester: Manchester University Press, 1995), 188.

6. Allen MacDuffie, *Victorian Literature, Energy, and the Ecological Imagination* (Cambridge: Cambridge University Press, 2014), 169.

7. Donald Worster, *Nature's Economy: A History of Ecological Ideas*, 2nd ed. (Cambridge: Cambridge University Press, 1994), 21–22.

8. Catherine Gallagher, *The Body Economic: Life, Death, and Sensation in Political Economy and the Victorian Novel* (Princeton: Princeton University Press, 2006), 100–7.

9. James F. W. Johnston, "The Circulation of Matter," *Blackwood's Edinburgh Magazine* 73 (1853): 552.

10. Michelle Niemann, "Rethinking Organic Metaphors in Poetry and Ecology: Rhizomes and Detritus Words in Oni Buchanan's 'Mandrake Vehicles,'" *Journal of Modern Literature* 35, no. 1 (2011): 213.

11. Niemann, "Rethinking," 112.

12. Georges Bataille, *The Accursed Share*, vol. 1, trans. Robert Hurley (New York: Zone Books, 1991), 21.

13. The legacy of organicism in aesthetic criticism is a long and storied one: The standard narrative is that the ideal is born of Aristotle's *Poetics*, is refined and expanded by Coleridge and elaborated by Wordsworth and fellow

Romantics (among whom we may include Thomas Carlyle along with Ruskin), reaches its apotheosis in the criticism of T. S. Eliot and the New Critics, and beginning with Raymond Williams has been under steady attack ever since. The crude form of this argument is that literature that celebrates organicism in nature or society, or takes organic structure as its *summum bonum*, is inherently conservative and politically oppressive.

14. For example, the work of Prussian naturalist Alexander von Humboldt, who theorized that there is a process of “coevolution” between living organisms and the earth’s crust and climate. Humboldt’s theory anticipates much later ecological and conservationist discourse, such as some elements of living systems theory, or James Lovelock’s “Gaia model” of the 1970s, which argues that the entire Earth functions as a self-regulating, living system.

15. It is important to distinguish development from growth: the former refers to increases in overall well-being, which can be brought about through such measures as redistribution and education; the latter refers to an (inflation-adjusted) increase in the total value of the goods and services produced by a particular economy.

16. Daniel W. Bromley, “Sustainability,” in *The New Palgrave Dictionary of Economics*, 2nd ed., ed. Steven N. Durlauf and Lawrence E. Blume (Palgrave Macmillan, 2008), http://www.dictionaryofeconomics.com/article?id=pde2008_S000482.

17. The concept of weak sustainability is articulated by Hartwick’s Rule. See John Hartwick, “Substitution among Exhaustible Resources and Intergenerational Equity,” *Review of Economic Studies* 45, no. 2 (1978): 347–54; and Robert M. Solow, “On the Intergenerational Allocation of Natural Resources,” *Scandinavian Journal of Economics* 88, no. 1 (1986): 141–49.

18. *Oxford English Dictionary*, s.v. “sustainable,” accessed March 12, 2017, <http://www.oed.com>.

19. David Ricardo, *The Principles of Political Economy and Taxation* (London: Dent, 1973), 192–93.

20. I thus read Malthus as an important precursor to marginal utility theory at the end of the century. For a fuller discussion, see the introduction to Deanna K. Kreisel, *Economic Woman: Demand, Gender, and Narrative Closure in Eliot and Hardy* (Toronto: University of Toronto Press, 2012), 3–24.

21. Ruskin, *Unto This Last*, in *Unto This Last, Munera Pulvaris, Time and Tide, With Other Writings on Political Economy 1860–1873*, vol. 17 of *The Works of John Ruskin*, ed. E. T. Cook and Alexander Wedderburn (London: George Allen, 1905), 84.

22. J. A. Hobson, *John Ruskin, Social Reformer* (London: James Nisbit, 1898), 88.

23. MacDuffie, *Victorian*, 147.
24. Hobson, *John Ruskin*, 139.
25. Ruskin, *The Ethics of the Dust*, in *Sesame and Lilies, The Ethics of the Dust, The Crown of Wild Olive, With Letters on Public Affairs 1859–1866*, vol. 18 of *The Works of John Ruskin*, ed. E. T. Cook and Alexander Wedderburn (London: George Allen, 1905), 333.
26. *Ibid.*, 238–39.
27. Ruskin, *Modern Painters Volume V*, vol. 7 of *The Works of John Ruskin*, ed. E. T. Cook and Alexander Wedderburn (London: George Allen, 1905), 49–50.
28. Ruskin, *Ethics*, 239.
29. *Ibid.*, 340–41.
30. *Ibid.*, 341.
31. *Ibid.*
32. *Ibid.*, 239.
33. James Clark Sherburne, *John Ruskin, or the Ambiguities of Abundance: A Study in Social and Economic Criticism* (Cambridge: Harvard University Press, 1972), 8.
34. *Ibid.*, 8–9.
35. Ella Mershon, “Ruskin’s Dust,” *Victorian Studies* 58, no. 3 (2016): 466.
36. *Ibid.*, 476.
37. *Ibid.*, 485.
38. *Ibid.*, 479.
39. For histories of the debate over the definition of life, see S. Tirard, M. Morange, and A. Lazcano, “The Definition of Life: A Brief History of an Elusive Scientific Endeavor,” *Astrobiology* 10, no. 10 (2010): 1003–9; and G. R. Welsh and J. S. Clegg, “From Protoplasmic Theory to Cellular Systems Biology: A 150-Year Reflection,” *American Journal of Physiology—Cell Physiology* 298, no. 6 (2010): C1280–C1290.
40. Ruskin, *Ethics*, 346. This is an idea Ruskin had toyed with as early as *The Stones of Venice* (1851): “Nothing that lives is, or can be, rigidly perfect; part of it is decaying, part nascent. The foxglove blossom,—a third part bud, a third part past, a third part in full bloom,—is a type of the life of this world.” *The Stones of Venice Volume II: The Sea-Stories*, vol. 10 of *The Works of John Ruskin*, ed. E. T. Cook and Alexander Wedderburn (London: George Allen, 1905), 203.
41. Andrea Pinotti locates a similar impulse toward vitalism in *The Elements of Drawing* (1857), in “Gothic as Leaf, Gothic as Crystal: John Ruskin and Wilhelm Morringer,” in *Ruskin and Modernism*, ed. Giovanni Cianci and Peter Nicholls (New York: Palgrave 2001), 24.
42. Sherburne, *John Ruskin*, 127.

43. George Levine, "Ruskin, Darwin, and the Matter of Matter," *Nineteenth-Century Prose* 35 (2008): 236–37.
44. For a very helpful reading of another passage in *The Ethics of the Dust* that reaches a similar conclusion, see Sharon Aronofsky Weltman, *Ruskin's Mythic Queen: Gender Subversion in Victorian Culture* (Athens: Ohio University Press, 1998), 141.
45. Jane Bennett, *Vibrant Matter: A Political Economy of Things* (Durham, N.C.: Duke University Press, 2010), 53.
46. Quoted in Bennett, *Vibrant*, 53.
47. *Ibid.*, 55.
48. *Ibid.*
49. *Ibid.*, 57–58.
50. *Ibid.*, 59.
51. Ruskin, *Ethics*, 333.
52. Ruskin, "The Work of Iron, In Nature, Art, and Policy," in "*A Joy Forever*" and *The Two Paths, With Letters on The Oxford Museum and Various Addresses 1856–1860*, vol. 16 of *The Works of John Ruskin*, ed. E. T. Cook and Alexander Wedderburn (London: George Allen, 1905), 377.
53. *Ibid.*, 376–77.
54. *Ibid.*, 385.
55. This restless principle of vitality can be traced back to Lyell's *Principles of Geology*: "The renovating as well as the destroying causes are unceasingly at work, the repair of land being as constant as its decay." Quoted in Andrea Charise, "G. H. Lewes and the Impossible Classification of Organic Life," *Victorian Studies* 57, no. 3 (2015): 381.
56. Ruskin, "The Work," 376.
57. *Ibid.*
58. Ruskin, *Proserpina*, in *Love's Meinie; and Proserpina*, vol. 25 of *The Works of John Ruskin*, ed. E. T. Cook and Alexander Wedderburn (London: George Allen, 1906), 350.
59. Levine, "Ruskin," 239.
60. *Ibid.*
61. Ruskin, "A Joy Forever," in "*A Joy Forever*" and *The Two Paths, With Letters on The Oxford Museum and Various Addresses 1856–1860*, vol. 16 of *The Works of John Ruskin*, ed. E. T. Cook and Alexander Wedderburn (London: George Allen, 1905), 64.
62. Ruskin, *Unto This Last*, 85.
63. Gill G. Cockram, *Ruskin and Social Reform: Ethics and Economics in the Victorian Age* (New York: Tauris Academic Studies, 2007), 42.
64. David M. Craig, *John Ruskin and the Ethics of Consumption* (Charlottesville: University of Virginia Press, 2006), 270.

65. Ruskin, *Unto This Last*, 111.
66. *Ibid.*, 110.
67. Moore, *Capitalism*, 66.
68. MacDuffie, *Victorian*, 154.
69. Moore, *Capitalism*, 66.
70. Jessica Maynard, "Architectures of Sacrifice: Ruskin, Bataille, and the Resistance to Utility," *Mosaic: A Journal for the Interdisciplinary Study of Literature* 39, no. 1 (2006): 115–30.
71. *Ibid.*
72. Levine, "Ruskin," 237.
73. Alaimo, "Sustainable," 563.
74. *Ibid.*, 561. Moore also makes explicit the necessity of this reconceptualization: "We must have a way of naming—and building the conversation through—the relation of life-making. . . . So we begin with an open conception of life-making, one that views the boundaries of the organic and inorganic as ever-shifting." *Capitalism*, 7.