

Saving nature in the Anthropocene

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Abstract This essay reviews six books broadly addressing the Anthropocene—the recent epoch in which humans play a dominant role on the face of the earth. Concepts of nature are still significant in contemporary American environmentalism despite its increasing diversity of issues, and no matter what the Anthropocene's challenges to naturalness nor what level of comfort or discomfort these works display regarding the Anthropocene, they largely retain some notion of nature. For balance, three books are included that generally speak positively of the Anthropocene and three that express various concerns: the former include *Love Your Monsters: Postenvironmentalism and the Anthropocene* (2011), *Rambunctious Garden: Saving Nature in a Post-Wild World* (2011), and *Living Through the End of Nature* (2010); and the latter include *Eaarth: Making a Life on a Tough New Planet* (2010), *The Nature Principle: Human Restoration and the End of Nature-Deficit Disorder* (2011), and *Authenticity in Nature: Making Choices About the Naturalness of Ecosystems* (2011). The latter group continues to distinguish nature from culture in the Anthropocene, thus effectively counting to two, whereas most among the former tend to count to one in celebrating a cultured nature. Embrace of the Anthropocene could, however, lead to counting beyond two by letting go of nature (and culture) as metaphysical categories qua moral shortcuts. The science and politics of living well in this enduring age of the Anthropocene may require attention less to generalities of nature than the interwoven details that constitute our environment.

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Introduction: rethinking environmentalism

Though its particulars have evolved, modern American environmental thought has remained surprisingly consistent over the last 40 years in featuring nature as a prominent theme. To be sure, a movement birthed in the horrors of DDT (Carson 1962) and the wonders of wilderness (Nash 1967) now encompasses issues as diverse as smart grids, endocrine disruptors, intergenerational equity, global environmental justice, and the IPCC. As contemporary synopses assert (e.g., Dowie 1995; Shabecoff 2003; Gottlieb 2005), environmentalism is no longer about saving *nature* alone: increasingly, it's about saving *people* given their dependencies on nature (witness the sustainability movement) and since environmental problems are often symptoms of deeper social problems (witness dumping in Dixie). Yet concepts of nature still suffuse the movement—perhaps no longer just wilderness, national parks, and Gaia, but also a spirit of wildness, community gardens, and an optimal 350-ppm-CO₂ atmosphere. It is not surprising that manifold notions of nature are found throughout contemporary environmentalism, since that is what environment means to most people.

This perennial nature refrain in contemporary environmentalism has roots that stretch back long before the movement: in one particularly exhaustive study, Clarence Glacken's *Traces on the Rhodian Shore* suggested how ideas of nature have played a key role in western civilizations for centuries (Glacken 1967). Just as our twenty-first century was completing its first decade, however, a remarkable confluence of intellectual fervor has emerged around the notion of the Anthropocene, now spilling into popular discourse in a manner that again foregrounds notions of nature at the heart of environmentalism. In brief, the Anthropocene is a new epoch of the earth, one in which humans dominate its landforms, biota, and atmosphere, one in which nature is no longer as natural as it once was (or seemed).

The Anthropocene has had its fullest scholarly treatment among geologists, following in part upon a proposal in 2000

by Paul Crutzen and Eugene Stoermer to adopt the term for the current geological epoch (Crutzen and Stoermer 2000; see also Zalasiewicz et al. 2010). Crutzen and Stoermer cited a litany of anthropogenic impacts on the earth as the basis for their proposal and suggested dating the start of the Anthropocene (thus the end of the Holocene) to the latter part of the eighteenth century. The proposal has more recently been formalized (Steffen et al. 2011), and since 2009, a working group of the Subcommission on Quaternary Stratigraphy, itself a subset of the International Commission on Stratigraphy, has been considering “the possibility of recognising an Anthropocene division either within the Holocene or separated from it.”¹ The proposal received special treatment in a conference organized by the Geologic Society of London in May 2011, “Anthropocene: A New Epoch of Geological Time?,” together with a multiauthored theme issue by the same name from March 2011 in *Philosophical Transactions of the Royal Society*. The notion has recently witnessed intense scholarly focus, including a joint paper in *Science* (Biermann et al. 2012) and a major conference,² all with significant scientific participation but with a broader intended audience and policy focus, some of it decidedly positive (DeFries et al. 2012). Many of these more policy-oriented scientific treatments anticipated the June 2012 United Nations Conference on Sustainable Development in Rio de Janeiro, a major 20-year revisit of the 1992 Rio Summit; the Royal Society’s People and the Planet site is one example,³ focusing on “links between global population and consumption, and the implications for a finite planet.” The topic has generated widespread interest in higher education: witness, for example, Stanford University’s Generation Anthropocene website and related podcast contributions.⁴ The popular media have also picked up on the Anthropocene, whether in letter or spirit, generally wrapping it in a face-the-reality message, sometimes with a positive spin; thus the *New York Times* op-ed from December 2011 “Hope in the age of man,” authored by contributors to two of the reviewed books below; the *Washington Post*’s “Spaceship Earth: A new view of environmentalism” from January 2012, discussing the earth as “a complex system, one that human beings must aggressively monitor, manage and sometimes reengineer”; or a March 2012 *Time* magazine blog titled “Anthropocene: Why you should get used to the age of man (and woman).”

Though scholarly and popular treatments have generally been neutral, even hopeful, profound questions follow from this reality of the Anthropocene in the context of environmental scholarship and activism. Which among environmentalism’s many natures are vindicated or vilified? Does

the reality of the Anthropocene close the door forever on the good old days of a pure nature consummately revealed in wilderness or defiled by pollution? Or does it irrefutably demonstrate the limitations of more recent hybrid notions in which humans, now dubbed “The God Species” (Lynas 2011), have effectively become the architects of nature—and upon whom Gaia may now be taking “revenge” (Lovelock 2007)? How, indeed, shall we envision nature in these “end times” (Žižek 2010)? This essay reviews six recent books that take largely predictable tacks, from those fully embracing the Anthropocene and its new possibilities to those profoundly less sure whether this trajectory is a good one; I include three of each. Surprisingly, in spite of the expected split between optimists and pessimists—sort of the latest incarnation of ecological catastrophism vs. cornucopianism (Cotgrove 1982)—many of these works share one strong point of agreement: whether as the old pure nature or the new hybrid nature, some notion of nature remains at the heart of environmentalism.

Celebrating the Anthropocene

Love Your Monsters

Of all the books reviewed here, only one uses the term in its title: *Love Your Monsters: Postenvironmentalism and the Anthropocene* (Shellenberger and Nordhaus 2011). The editors, Michael Shellenberger and Ted Nordhaus of “Death of environmentalism” fame (2005), worry little about challenging the current state of environmental thought: “[W]e need a new view of both human agency and the planet. We must abandon the faith that humankind’s powers can be abdicated in deference to higher ones, whether Nature or the Market. And we must see through the illusion that these supposedly higher powers exist in a delicate state of harmony constantly at risk of collapse from too much human interference” (93—Kindle locations used throughout for this e-book). *Love Your Monsters* was coined from the work of Bruno Latour, one of the contributors. Latour clarifies this odd little phrase by invoking a famous book (and perhaps even more famous movie): “Dr. Frankenstein’s crime was not that he invented a creature through some combination of hubris and high technology, but rather that he abandoned the creature to itself” (271–273).

Even in the above, we already have more than one spin on the Anthropocene: for Shellenberger and Nordhaus, it is a mandate to move forward (“to save what remains of the Earth’s ecological heritage, we must once and for all embrace human power, technology, and the larger process of modernization” [61–62]), but for Bruno Latour, it is more a duty to love our creation, “...a process of becoming ever more attached to, and intimate with, a panoply of nonhuman natures” (292–293). All told, there are seven contributed

¹ See www.quaternary.stratigraphy.org.uk/workinggroups.

² See www.planetunderpressure2012.net.

³ See royalsociety.org/policy/projects/people-planet.

⁴ See www.stanford.edu/group/anthropocene.

essays in *Love Your Monsters*, each engaging with the Anthropocene in particular ways. The opening essay by Shellenberger and Nordhaus, “Evolve: The case for modernization as the road to salvation,” points out the hypocrisy of the current state of affairs: “In preaching antimodernity while living as moderns, ecological elites affirm their status at the top of the postindustrial knowledge hierarchy” (188) and recommends a “modernization theology” to replace nature-based ecotheology as a more effective and coherent response to ecological change. Latour's essay is next: he refers approvingly to Ulrich Beck's notion of “modernizing modernization” (Beck 1992), linking it with his own compositionist manifesto (Latour 2010): “If the older narratives imagined humans either fell from Nature or freed themselves from it, the compositionist narrative describes our ever-increasing degree of intimacy with the new natures we are constantly creating” (343–345).

Following Latour's essay are two that explore the ecological dimensions of the Anthropocene. In the first, “Conservation in the Anthropocene: Beyond solitude and fragility,” Peter Kareiva, Robert Lalasz, and Michelle Marvier contrast two geologic epochs: “Conservation's continuing focus upon preserving islands of Holocene ecosystems in the age of the Anthropocene is both anachronistic and counterproductive” (579–580). In the second of these ecologically oriented essays, “The planet of no return: Human resilience on an artificial earth,” Erle Ellis makes the bold (to environmental ears) claim that “The history of human civilization might be characterized as a history of transgressing natural limits and thriving” (795–796); thus, “There is no alternative except to shoulder the mantle of planetary stewardship. A good, or at least a better, Anthropocene is within our grasp.” (800–801).

The next essay, “The rise and fall of ecological economics,” by Mark Sagoff, attends to nature's epistemological ally, science. Sagoff argues that, by promoting abstract mathematical modeling of thermodynamics and equilibrium states in natural systems, and eventually caving in to more mainstream cost-benefit and willingness-to-pay economic methodologies, ecological economics “finds itself at a political and academic dead end,” suggesting the weakness of appealing to “scientific theories, rather than to popular concerns, to provide an intellectual and political basis for an effective green politics” (928–930). If there was once a moral power sustaining environmentalism, it will only come back if “environmentalists employ science not to prescribe goals to society but to help society to achieve goals it already has” (1198).

Sagoff's essay is followed by one authored by Daniel Sarewitz, “Liberalism's modest proposals,” whose subtitle, “The tyranny of scientific rationality,” echoes in part Sagoff's claims. Sarewitz's title itself echoes the famous essay of Jonathan Swift, who also set to condemn “scientific

rationality unchecked by experience, empathy, and moral grounding” (1357–1358). Sarewitz focuses on an interesting contradiction in that American liberalism accords scientific rationality a “tyrannical role,” yet eschews technological solutions to problems: the pro-science stance resonates with its stance favoring government oversight, but has ironically become the justification for a “risk- and scarcity-based liberal politics” (1437–1438) that prioritizes regulation over technological innovation.

The title of the final *Love Your Monsters* (herewith LYM) essay, “The new India vs. the global green Brahmins,” suggests its similar displeasure with the mainstream green agenda. The author, Siddhartha Shome, begins by reworking India's iconic environmental tale: “The actual history of the Chipko is the story of rural Indians' efforts to establish local control of resources, first by fighting the outside forest contractors who wanted to log their trees, and then by fighting outside environmentalists who wanted to protect them” (1592–1594). Shome challenges well-known green elites like Vandana Shiva, who “naturalized poverty and invoked the interests of the rural poor as justification for their antimodern ideas” (1621–1622), and reminds us that the Indian ascetic tradition went hand in hand with caste.

Do these arguments mutually hold together? The e-book endleaf proclaims this as the common thread: “a vision of postenvironmentalism for the Anthropocene...where all 10 billion humans achieve a standard of living that will allow them to pursue their dreams...if we embrace human development, modernization, and technological innovation” (1719–1721). And indeed, there are points of resonance in all essays: for instance, Sarewitz supports a “public goods-public works approach” to technological innovation, Kareiva and coauthors support conservation via “embracing development and advancing human well-being,” and Shome is thankful that “modernization and urbanization” are finally breaking down the caste system in India. But what is the necessary link between acknowledgment of the Anthropocene and a progressive/innovative outlook? Only if, by looking backward, we erroneously see a once-pure nature in perfect equilibrium—an Edenic narrative (Merchant 1995)—and the analogous social generalization of peoples in harmony with this nature. If the past becomes more variegated—if nature never was entirely natural, nor unnatural—then the future does too, and no simple nod toward tradition nor progress will do. Clearly, there are more questions to be asked: what sort of modernization, by whom and for whom? Perhaps LYM rightly shakes up the gospel of Nature, but the gospel of Progress is not an untainted substitute, as any student of the twentieth century may observe.

Rambunctious Garden

LYM is by no means the only contemporary work exploring new ways of understanding nature: another recent title

(endorsed on the back by Peter Kareiva, as well as the green provocateur par excellence, Stewart Brand) is Emma Marris' *Rambunctious Garden: Saving Nature in a Post-Wild World* (2011). The overleaf boldly proclaims, "A paradigm shift is roiling the environmental world," and in a series of readable vignette chapters, Marris works to contrast nature conservation old and new. Her founding premise is Anthropocene to the core: "Nature is almost everywhere. But wherever it is, there is one thing that nature is not: wilderness.... We are already running the whole Earth, whether we admit it or not" (2). Marris covers some of the same turf noted in LYM (e.g., early debates around Frederick Clements' notion of climax [read: equilibrium] vegetative communities, or the need for assisted migration in a world where rates of climate change suggest species cannot relocate on their own), yet her focus is solely on the future of conservation, not modernization or science as in LYM. And given that conservation is largely founded on population biology and ecology, Marris writes easily and compellingly on the struggles these fields face in managing biodiversity in the Anthropocene. In one sample chapter, for instance, Marris visits a supposedly "primeval" forest located between Poland and Belarus, and discovers a few surprises about this heavily protected expanse. One of the main factors that led to its protection, for instance, was its use for centuries "as a game preserve for royals and other elites"—again, the connection noted in LYM between environmentalism and wealth. Or, that rare European bison are found on the site, protected long ago as game, now radio-collared, fed in the winter, and shot when overabundant. Or, that the classic megafaunal extinction epoch of North America, less pronounced in Europe due to a longer timespan of human/nonhuman interaction, nonetheless did visit upon the auroch, the ancestor of cows, extinct in Europe since the early seventeenth century. Or, that scientists studying this forest now speculate that releasing domestic cows—clearly forbidden—could accomplish the same ecological grazing function as the auroch once did. This forest primeval, at least, has a much richer history (and, conservationists hope, future) than any notion of wilderness would suggest.

Whereas Marris excels in her interpretation of contemporary conservation science, her invocation of the literature on nature and wilderness is less lustrous. As one example, Marris notes historian William Cronon's famous essay "The trouble with wilderness, or, getting back to the wrong nature" (Cronon 1995a), yet oddly enough cites it as part of an anthology, not from its original location as the lead essay for a major (and also uncited) mid-1990s volume, *Uncommon Ground: Toward Reinventing Nature* (Cronon 1995b), which one would imagine deserves mention given her own "rambunctious garden" reinvention. Indeed, given this trope of nature as a garden, one would think that perhaps Leo Marx's *Machine in the Garden* (1964) or certainly Michael

Pollan's *Second Nature: A Gardener's Education* (1991) or possibly even Robert Pogue Harrison's *Gardens: An Essay on the Human Condition* (2008) would have deserved mention, but alas.

Then there is Marris' final chapter: "A menu of new goals." Here, reader, is her list of priorities for conservation: (1) "Protect the rights of other species," (2) "Protect charismatic megafauna," (3) "Slow the rate of extinctions"—and four more, all of which may not exactly sound new. After paying homage to paradigm shift in the overleaf, we are left with an all-too-familiar list of priorities for the conservation community. Marris ends the book, "Let the rambunctious gardening begin," but one gets the sense that it has long begun. No matter how radical the book's self-pronouncement, it may hearken too close to the pulse of conservation to explore any territory in which nature—any overarching generalization for the non-human, whether wilderness or garden—is left behind. As her subtitle says, Marris has indeed saved nature, a concept that appears almost infinitely malleable in the hands of those who cling to it.

Living Through the End of Nature

If Emma Marris' nature is a rambunctious garden, and that of the LYM contributors is the reality of the Anthropocene, then to author Paul Wapner, *Living Through the End of Nature* (2010) suggests it to be a thing of the past. Wapner launches his book with a lament: "the wildness of nature, so dear to American environmentalism (and to Wapner, in a confessional moment), is coming undone" (4). Wapner sees two threats to nature, one empirical, the other conceptual. Empirically, Wapner recounts the Anthropocene-tinged perspective of Bill McKibben's well-known *End of Nature*; conceptually, Wapner cites *Uncommon Ground* as exemplar of the constructivist position that nature is essentially an idea, generally telling us far more about ourselves than the physical world. For Wapner, coming to terms with the end of nature is a key task at present for environmentalism, which "presents a chance for the movement to liberate itself... from a nature-centric perspective... creating ecological and social health in a world where it is impossible to separate humans and nature" (12).

Wapner develops a particular story, one with two poles: the dream of naturalism and the dream of mastery. Naturalism, to Wapner, is the familiar ground of environmentalism, green with egalitarian harmony; mastery, the ground of its many adversaries who desire to control nature, to tame it to their ends. His book weaves a tale from these two dreams in recent American environmental history, recounting the reality of the Anthropocene, and its epistemological corollary in constructivism, as "The great vanishing." Wapner then redefines two now-old chestnuts of environmentalism. The first is wilderness, for which "its

sheer otherness...escapes our categorizations and control. We engage this wildness by cultivating relationships with ourselves and others” (166). The second is climate change, whose related politics “can no longer be tied to biophysical imperatives but rather must emerge from collective decisions about the kind of future we want” (198).

Wapner recommends that contemporary American environmentalism consider what he calls a “middle path” between the dreams of naturalism and mastery. One of its chief virtues is a “politics of ambiguity,” which Wapner explains as “seeing that what we used to assume as a conflict [i.e., between naturalism and mastery] as simply the experience of living in a complex world in which the old standards of value and political engagement still murmur in the background, but no longer provide the secure insight they once did” (204). Indeed, ambiguity “finds its spirit in wildness” (206). Wapner closes by affirmatively citing bright green politics—a term resonant in many ways with LYM—yet reminding us that “The wildness of the world and our selves may be muted [in the Anthropocene]... But it is not extinguished... It is folded into the broader human/nature reality. The challenge for environmentalism in a postnature age is to keep this alive and present” (214).

Ultimately, Wapner accepts the end of something called nature, but not the end of a certain essence of nature: “If we dig deep enough... we recognize that the idea of nature... has been used as a conceptual stand-in for the notion of *otherness*... Keeping otherness alive feeds our sense of excitement at coming to the edge of our knowledge and control... The more we honor otherness, the more we will seek its cultivation in ourselves and our world” (218). Marris explicitly redefined nature as a rambunctious garden given the Anthropocene; Wapner explicitly rejects nature given the Anthropocene, yet implicitly, the nature of nature as otherness or wildness remains the heart of environmentalism.

It is impossible for a broad-brush stroke argument like Wapner's to avoid generalizations, and certainly, there is ideal-typical truth to the ubiquity of the dreams of naturalism and mastery in environmental politics. But aren't naturalism and mastery linked dreams? Postmodern nostalgia for naturalism builds squarely on several centuries of effective mastery of nature; a declawed nature is far more amenable to notions of harmony than one that still possesses agency. And what sort of naturalism, what sort of mastery ought we to steer between? Wapner admits that this work is brief on references, but why did he not mention Val Plumwood's *Feminism and the Mastery of Nature* (1993)? Here, he would have found a particular set of related logics of mastery that evidence themselves in all sorts of contexts today, not just in the realm of environment. Or why not Bruno Latour's *Politics of Nature* (Latour 2004a), perhaps the closest argument (at least in terms of moving beyond nature) to his own? The end of nature is going to be a pretty hard

thing to find our way through; we need all the scholarly help we can get.

Anthropogenic anxieties

Eaarth

What LYM, *Rambunctious Garden*, and *Living Through the End of Nature* have in common is a spirit of rugged optimism: nature's gotten quite a shakeup at the hands of culture, to the point that nature is in many respects a cultural artifact, but let's get over moaning the loss and get on with the joyful task of managing the earth. This is one way to view the Anthropocene: celebrate this new nature, full of a new sound of wildness, a new rampage of biodiversity, and move it forward. As one could imagine, this is the minority view among environmentalists. Indeed, why celebrate the death of that which you love and defend?

In the complicated psychology of today, full of yearning for the good old days of Eden mixed with the messy hyper-realities in which we live, few take such an unabashedly cheery outlook as those discussed above. And perhaps, none is better known as a prophet of doom and repentance than Bill McKibben. In the latter 1980s, McKibben released *End of Nature* (1989), which argued that anthropogenic forces—certainly fossil fuel burning—have not only left an imprint throughout the world, but that the very idea of nature as a “separate and wild province” (48) is sadly being lost, given the advent of the Anthropocene (a term he did not use back then). More recently, McKibben is connected with 350.org, a nonprofit he primarily founded whose name is its goal for atmospheric carbon concentration in parts per million. He is known for his tireless advocacy of climate legislation and has been an inspiration to many in the American environmental movement.

Yet McKibben's most recent volume, also on the theme of the Anthropocene but with a far different spin than either those reviewed above or his own prior activism, suggests the position of a leader who has admitted defeat—certainly understandable, given the trouncing climate legislation faced in the US Congress in the early Obama administration and the similarly sobering results of the UN climate change conference (COP15) in Copenhagen in 2009. McKibben, in fact, decides to rename our world for this volume, titling it *Eaarth: Making a Life on a Tough New Planet* (McKibben 2010). (My own subtitle for the book would be I Told You So—McKibben admits the same toward the end [216].) If *End of Nature* was, as its overleaf claimed, “More than simply a handbook for survival or a doomsday catalog of scientific prediction... an impassioned plea for radical and life-renewing change,” *Eaarth* becomes a survivalist manifesto. Again, from the overleaf, “Our old familiar globe is suddenly melting, drying,

acidifying, flooding, and burning in ways that no human has ever seen... our hope depends on building the societies and economies that can hunker down, concentrate on essentials, and create the type of community that will allow us to weather trouble on a planet... violently out of balance.” If we ever were unsure as to whether our times are indeed the dawning of the end (as so many other generations have similarly suspected), McKibben is here to remove any trace of doubt.

Eaarth consists of four chapters: “A new world,” “High tide,” “Backing off,” and “Lightly, carefully, gracefully.” The first two chapters—one half of the book—contain fact after fact of the horrors of the Anthropocene (McKibben likens the effect to “body blows... mortar barrages... sickening thuds” [5]), coupled with our irrational inability to act in response by slowing the growth machine. This is a familiar facts-and-action trope to environmentalists: pile up the facts, virtually all of which are delivered by science and speak disturbingly of the nonhuman world (or its effects on us), then proclaim necessary actions. Indeed, *Eaarth's* latter two chapters are about action, but at a vastly subdued spatial context relative to that for which McKibben has been known: “We've got a lot of work to do if we were going to survive on this Eaarth, but most of it needs to be done close to home. Small, not big; dispersed, not centralized” [120]. (And yet: “If I had my finger on the switch, I'd keep the juice flowing to the Internet even if I had to turn off everything else” [205]).

McKibben's argument in *Eaarth* is not entirely new in his published work. He writes that *End of Nature* was “mainly a philosophical argument (xi), that what was once “sadness has [now] turned into a sharper-edged fear” (xii). But his 1999 revised introduction to *End of Nature* is tinged with *Eaarth*-ish hues: “This home of ours... becomes each day... a more violent place, its rhythms of season and storm shifted and shattered... it has become unbalanced in our short moment on it” (xxv). Perhaps McKibben's corpus has long been one of Anthropocene shock, what geographer Paul Robbins has termed “Ecological anxiety disorder” in his work on the politics of the Anthropocene.⁵ And, in the long Judeo-Christian tradition of prophetic calls to repentance, McKibben's exhortation remains in place, albeit more circumscribed—yet still effective, at least judging by his stature as one of the best-known names in the contemporary American environmental movement. Perhaps ecological anxiety disorder is a widespread Anthropocene phenomenon.

The Nature Principle

Books sounding a warning on the Anthropocene come in all flavors, and McKibben's prophetic voice is but one common

approach. Another, more positive-sounding approach emanates from the more experiential strains of environmentalism, perhaps iconified no better than by Richard Louv, who originated the phrase “nature deficit disorder” and has written a series of popular books helping children and adults reconnect with nature. Louv's classic *Last Child in the Woods* (2005) sounded the alarm, though in contrast to McKibben, the warning concerned not so much the increasingly anthropogenic imprint on the earth but the ways in which these anthropogenic landscapes—read, civilization—are bounding young lives to the point that no time is spent “in nature.” Here, the Anthropocene lies at the heart of the anxieties our youth face, and finding natural places becomes not only a refuge from the Anthropocene but a necessary psychological means to cope with it.

Last Child in the Woods has inspired public policies such as the No Child Left Inside movement,⁶ promoting legislation at the US state and federal level to include outdoor activities in elementary and secondary education. Among those who worry about the effects of the Anthropocene—understood as an increasingly human-dominated set of surroundings—on our youth, nature deficit disorder proved the perfect action item. But of course, those taking these actions are, for the most part, grownups. This is where Louv's more recent book *The Nature Principle: Human Restoration and the End of Nature-Deficit Disorder* (2011) comes in. As Louv relates in his first chapter, he was approached by a woman in Seattle stating forthrightly, “Listen to me, adults have nature-deficit disorder, too” (2). *The Nature Principle*, then, expands on Louv's previous work with adults in mind.

That *The Nature Principle* would be included in a review essay on the Anthropocene seems like a bit of a stretch, but Louv's stance is clearly McKibbenian, albeit emphasizing the experiential dimension. As he argues, “The Nature Principle suggests that, in an age of rapid environmental, economic, and social transformation [read: The Anthropocene], the future will belong to the nature-smart—those individuals, families, businesses, and political leaders who develop a deeper understanding of nature, and who balance the virtual with the real” (4). Louv goes on immediately to articulate the main precepts of the Nature Principle—this is a popular book, after all—such as the need for a “nature balance,” “vitamin N,” “purposeful place,” and “biophilic design,” and successive chapters explore and weave together these precepts.

As the book unfolds, there's little doubt which side of the Great Divide Louv is on: right off the bat in chapter 1, he says “We can find immeasurable joy in the birth of a child, a great work of art, or falling in love. But all of life is rooted in nature, and a separation from that wider world desensitizes and diminishes our bodies and spirits” (9). Or, in a later chapter, Louv writes “Global warming? Welcome to global

⁵ Paul Robbins and Sarah Moore, “Ecological Anxiety Disorder: Diagnosing the politics of the Anthropocene,” Association of American Geographers Annual Meeting, New York City, February 26, 2012.

⁶ See [http://en.wikipedia.org/wiki/No_Child_Left_Inside_\(movement\)](http://en.wikipedia.org/wiki/No_Child_Left_Inside_(movement)).

blaring... Noise... keeps people indoors, or outdoors with iPods plugged into their ears" (174). There are natural things, and there are anthropogenic things, and the latter pale in comparison to the former. Now, Louv is not just talking wilderness: gardens attract a good deal of his hopeful attention, as extolled in the section "Creating everyday Eden: High-tech/high-nature design where we live, work, and play." As compared to the LYM contributors, Louv is happy with technology too, so long as it's nature friendly.

Ultimately, Louv extols in his final chapter a more experiential, personal environmentalism rooted in nature. He recounts a high school class bored by a climate change lecture that enjoyed a "life-changing experience" with this simple assignment: "find a place in nature, spend a half hour alone in it, and write a one-page essay about the experience" (284). If McKibben wholeheartedly mourns the Anthropocene and seeks ways to scrape by in survivalist mode, Louv finds the facts of the Anthropocene to be rather depressing and boring, and urges us to take a hike and get a better perspective on things. The two outlooks could not be more different in some ways, but ultimately, they are both a weighty judgment, a no-ambiguity one, on the Anthropocene's attack on nature.

Authenticity in Nature

If McKibben's is perhaps the best-known environmental voice bemoaning the Anthropocene, and Louv's is also well known in encouraging us to flee it, there remain some hard intellectual questions: just what sort of nature is under attack, and what sort of nature do we need more of? McKibben's nature is something beyond the control of humans; Louv's is something beyond the trappings of civilization. But there must be shades of naturalness, a certain point at which anthropogenic impacts become a climate issue to McKibben, or to personal well-being in the case of Louv. Though McKibben and Louv (and countless similar titles on your bookstore's environment shelf) are for the most part quick to decry the human transformation of nature, neither fully address these more philosophical questions. And they are significant: the Anthropocene didn't just show up one day, and certain human transformations may be understood by McKibben or Louv as more benign than others.

One recent work, also built on the challenge of the Anthropocene ("We have unwittingly created a situation where we are now necessarily stewards of much of this life [on Earth]" [191]), that attempts to more carefully define these shades of gray is *Authenticity in Nature: Making Choices About the Naturalness of Ecosystems* (Dudley 2011). In this work, ecologist Nigel Dudley takes us on a wide journey: problems with hyperrealist and hyperconstructivist accounts of wilderness, how attitudes to nature change, the ethics and economics (as in ecosystem services) of naturalness, large-scale assessments of the extent of natural ecosystems. All of these are directed toward a particular

argument Dudley will make that authenticity is the best way to define what we mean by nature and will lead to support of certain anthropogenic transformations of nature and opposition to others.

By authenticity, Dudley means "a resilient ecosystem with the level of biodiversity and range of ecological interactions that can be predicted as a result of the combination of historic, geographic and climatic conditions in a particular location" (154)—a definition that, in ecocentric fashion, "elevates *ecological process* in importance above the minutiae of *ecological components* [his emphasis]" (156). Dudley offers examples: for instance, the North American gray squirrel has overrun the native red squirrel in much of Europe, but accomplishes much the same ecological function as the red once did, so to Dudley, this ubiquitous rodent of the Anthropocene is not much of a concern. Yet Dudley acknowledges, as a true ecologist, that it is difficult to systematically assess authenticity in ecosystems: for each benign gray squirrel, there may be a more scurrilous introduced species doing far more anthropogenic harm. He thus proposes an initial classification system to aid in assessment of authenticity. And he does admit to more traditional conservationist leanings, e.g., "Protected areas don't work but they are the only things that *do* work" (167). Ultimately, Dudley bets his hand on restoration: "If I were a gambler, I would stake heavily on the proposal that restoration techniques will become *the* necessary skill for ecologists in future" (181).

What is Dudley after in this move toward authenticity? None other than an effective response to the Anthropocene: "I criticize many of the myths of naturalness and wilderness [that have also been rejected by Anthropocene supporters] but then rebuild concepts of naturalness in... what might be a more usable form for conditions in the 21st century" (4). Certainly, he channels a wee bit of McKibben toward the beginning ("Anyone with the curiosity to pick up a book of this sort already knows that we are living in a time of environmental crisis; a string of depressing statistics from governments, inter-governmental bodies and NGOs have emphasized this again and again" [5]). But Dudley does not repeat the litany—"It is not my intention to labour the point, but instead to look at the opportunities that we still retain" (5). Dudley thinks ecologically and not therapeutically like Louv, but along with Louv, he does not join McKibben in his (wifi-enabled) survivalist trench. Unlike Louv, Dudley is much more careful in defining nature in the Anthropocene.

Does Dudley's authenticity approach work? He does consider interesting analogs such as authenticity in culturally significant sites, and in a manner reminiscent of *Rambunctious Garden*, Dudley speaks primarily from the perspective of ecology and the natural sciences; in this corner of the Anthropocene, his position is well founded. Yet other corners of the Anthropocene are perhaps less expertly addressed. As one example, his chapter dispensing with constructivism (The

myths of wilderness—myth 2: Naturalness is irrelevant) approvingly cites Eileen Crist (2004), who argues that pro-constructivists “do not deconstruct their own rhetoric or assumptions” (6), and approves her banal line of argument that “nature has a reality beyond that invented for humans” (55). Well, of course—as those of us sympathetic to certain forms of constructivism fully support (Proctor 1998). For the record, reality is not just an idea in our heads, and as far as I can tell, it didn't show up simply to serve us. I'm not sure which constructivists would believe that: there are lots of different constructivists out there, just like there are lots of different ecologists. Dudley's grand sweep of a book, covering a wide reach of topics near and far from his home in ecology, is ambitious but rings true a bit closer to home.

An Anthropocene beyond nature

Raymond Williams famously said in his far-ranging *Keywords*, “Nature is perhaps the most complex word in the [English] language” (Williams 1983, p. 219). And certainly, the books included in this review suggest its many refractions today. Yet they only scratch the surface. And the representation is not even: for each new embrace of the Anthropocene, each new publication or website exploring its possibilities and liabilities (see, e.g., www.anthropocene.info), there are ten rejections. Take, for instance, *Moral Ground: Ethical Action for a Planet in Peril* (Moore and Nelson 2010), with contributors including “eighty visionaries—theologians and religious leaders, scientists, elected officials, business leaders, naturalists, activists, and writers,” who are not especially enamored of the Anthropocene.⁷ The book is based on one question: “Do we have a moral obligation to take action to protect the future of a planet in peril?,” and there are 14 variants of the answer “yes” that organize these many contributed essays, e.g., “for the survival of humankind,” “for the sake of the Earth itself,” “for the stewardship of God's creation,” “because justice demands it,” etc.

The book's focus is the realm of the ethical, our “moral responsibilities” that “no amount of factual information” can effectively guide (xvii). And yet facts buttress the entire moral argument you find in *Moral Ground*—apparently settled facts. In this regard, *Moral Ground* enjoys healthy company: the facts-and-action narrative is ubiquitous in the Anthropocene, as Louv and Dudley admit. Indeed, each discussion of the Anthropocene that does political work toward a particular end builds on facts and values—be it the settled facts of *Moral Ground* pointing rather inevitably toward particular values (all 80 essays answered its root question in the affirmative)—or McKibben's “mortar barrages” leading him to lead us on a path of survival amidst his own planet in peril, or LYM's facts

of human transformation of nature pointing us resolutely forward toward a future of innovation. Yet this does not quite do justice to complexity on the side of facts, values, or both. The Anthropocene is inevitably a discussion about facts and values, but many facts, many values. And this may help guide us through the literature on the Anthropocene: by counting beyond two.

What do I mean by counting beyond two? My thoughts on the Anthropocene resonate with those of certain other academic writers such as Hamilton (2012), Lorimer (2012), and especially Latour (e.g., 2010)—who, along with inspiring the first title reviewed in this essay, arguably offers the most provocative resolution of the questions posed at the outset. In brief, these writers build on the Anthropocene to suggest that overarching notions of nature (and thus culture) require not just rethinking but abandonment.

Let us briefly go back to the midnineteenth century, when George Perkins Marsh released his masterful *Man and Nature; or Physical Geography as Modified by Human Action* (1864). Marsh's final sentence offers a clue to how the moral debate over the human transformation of the earth has largely proceeded since then: “Every new fact... is another step toward the determination of the great question, whether man is of nature or above her.” This passage includes both counting to one (“whether man is of nature”) and counting to two (“... or above her”). More generally, the monist norm of counting to one is either a cultured nature or a natured culture, whereas the dualist norm of counting to two is nature over (sometimes free from) culture or vice versa. These are the only options when nature and culture are treated as über-categories, to be merged (counting to one) or kept distinct (counting to two).

Most of those concerned with the Anthropocene, such as McKibben and Louv, and, in a more sophisticated respect, Dudley, count to two. It appears typical, when confronted with the complexities that are the Anthropocene, to sharpen the conceptual boundary separating these domains so as to render this complexity understandable: McKibben's feared “new world” is the world no longer and has passed from the realm of nature to culture, or Louv's “nature balance” is a therapeutic foray into nature to restore a depauperate culture.

In response to these arguably futile efforts to reinforce the boundary between nature and culture, supporters of the Anthropocene generally stop counting at one: nature and culture are now irreversibly mixed, and all we see around us is (a highly humanized) natureculture. Rather than negotiate the boundary as do McKibben and Louv, this vocal minority in the contemporary environmental movement has largely removed it and recommends that we embrace our active hand in this hybrid reality. Yet sometimes, there is a failure to distinguish, say, better naturecultures from lesser naturecultures. And, whether it is (rambunctious) gardening or Modernization, an overriding moral principle often continues to guide the pro-Anthropocene wing through these challenging times.

⁷ See www.moralground.com.

Counting to two and counting to one retain some notion of nature as a sort of moral compass in the Anthropocene, whether in pure form (e.g., the wild) or hybrid form (e.g., the garden). Typically, the pure form is mourned by counters to two, the hybrid form celebrated by counters to one. In all such cases, some version of nature is essentialized as a consistent moral rule. This has not gone unnoticed in scholarly reflections on the Anthropocene: indeed, Latour discards nature as some “unified cosmos that could shortcut political due process by defining once and for all which world we all have to live in” (Latour 2011, p. 8). Perhaps this is why there is so much counting to one and counting to two: in an era where many have abandoned other once-solid moral shortcuts such as science, religion, and the state, nature seems to be the only solid moral ground we can find.

Yet counting *beyond* two remains a possibility if one accepts the reality of the Anthropocene, and this is also evidenced among at least some of the contributors above. Counting beyond two is based on a refusal to accept that there were ever two boxes into which reality could be parsed or that reality now falls under one grand entropic category. Certainly, the magnitude and scale of human transformation of the earth have increased in recent times; but if the Anthropocene represents the hybrid realities we live in, we have always lived in the Anthropocene. Counters beyond two would appreciate that the human transformation of land–and–atmosphere–and–oceanscapes has grown over time, but these scapes were many and varied, not simply natural (or cultural) ones. So, there were never two. And, when transformed, they become many more, not just one massive mix of nature and culture, amenable to some monistic prescription.

Counting beyond two suggests that the environment we study contains all sorts of fascinating, troubling, interwoven networks of things. Each is certainly not nature, nor simply a generalized mix of nature and culture, but its own story waiting to be patiently understood—and perhaps only then assembled into some more orderly whole via what Latour cryptically calls a “cosmopolitics” (2004b, 2011). Perhaps, counting beyond two will help us learn the science and politics of how to tell a manifold host of better stories in what may prove to be the enduring age of the Anthropocene.

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