

Opposite page: Digital rendering of a projection from Lise Autogena and Joshua Portway's *Black Shoals Stock Market Planetarium*, 2001/2004.

Above: Nils Norman, *Geocruiser*, 2001-2004, mixed media. Installation view, Venice, 2003.

Art After Nature

T. J. DEMOS ON THE POST-NATURAL CONDITION

THE NIGHT SKY may never have looked as disturbingly different as it did in *Black Shoals Stock Market Planetarium*, 2001/2004, for which the London-based artists Lise Autogena and Joshua Portway projected an array of otherworldly constellations onto a planetarium-style dome. Each astral body corresponds not to nature but to a publicly traded company, as a computer program translates the real-time financial activity of the world's stock exchanges into glimmering stars. At Tate Britain in 2001, the piece connected to a Reuters news feed; at the Nikolaj Copenhagen Contemporary Art Center in 2004, it was wired to the local stock exchange. Stars flash brightly whenever their stock is traded, gathering into clusters



Lise Autogena and Joshua Portway, *Black Shoals Stock Market Planetarium*, 2001/2004, mixed media. Installation view, Nikolaj Copenhagen Contemporary Art Center, 2004.

***Black Shoals Stock Market Planetarium* is an existential model for predatory life under advanced capitalism, within a zone where nothing else—not bodies, social life, religion, or aesthetics—matters.**

or dispersing according to market momentum. Adding to this celestial panorama of astronomical complexity, the artists introduced digital creatures into the luminous ecosystem. Evolutionary algorithms designed by the artificial-life researcher Cefn Hoile program these creatures to feed on the energy of the stars, growing into complex beings and reproducing in order to better survive in this strange media ecology. When there's a market downturn, they experience famine and die out, overcome by the darkness.

But this extraordinary ecosystem is also, pointedly, devoid of natural life. The title of Autogena and Portway's project puns on the so-called Black-Scholes option-pricing formula, published in 1973 by University of Chicago professors Fischer Black and Myron Scholes, which set the course for the trading of financial derivatives on an unprecedented scale. *Black Shoals Stock Market Planetarium* reduces complex calculations of this kind to the level of a video game's seductive visual logic, whereby the ravenous animals simulate the speculative passions

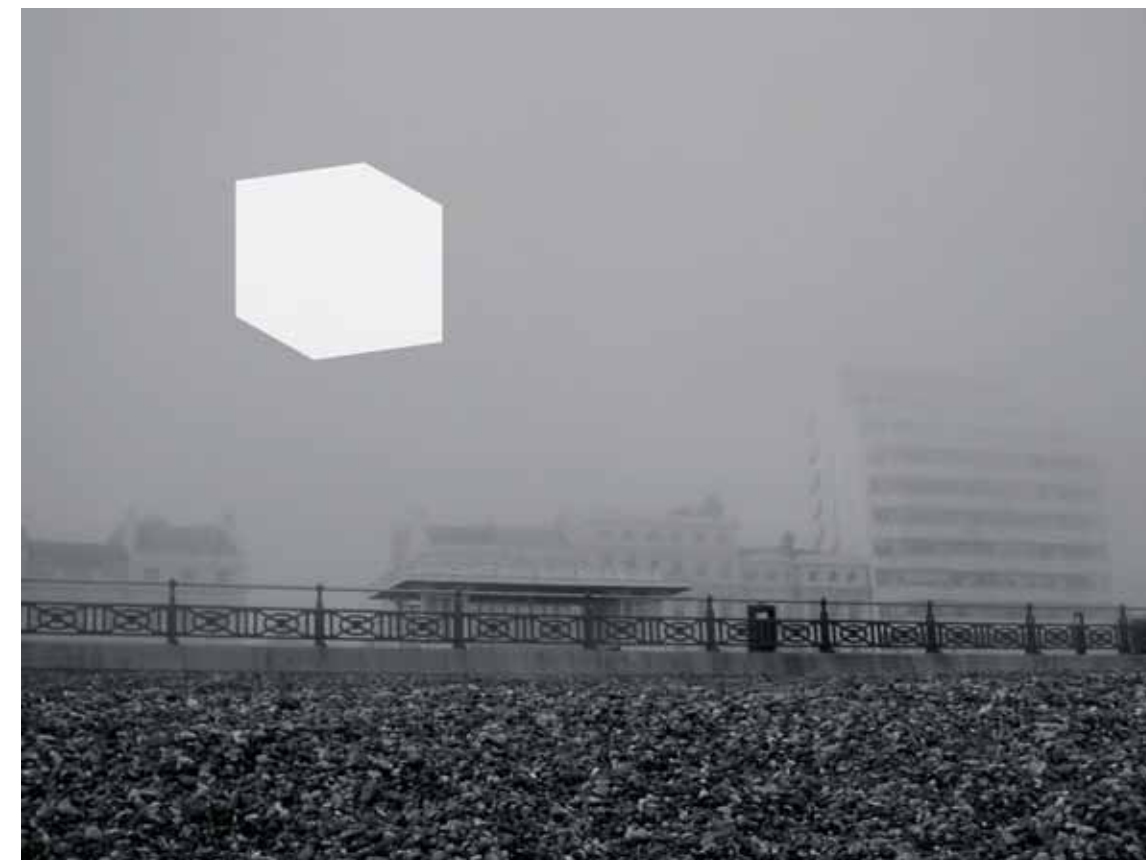
that have led to real-life suffering and disasters. As Hoile says, "The creatures' relationship with their artificial world of stars is a mirror of our relationship with the financial markets—they strive to survive, competing with each other in a world whose complexity they are too simple to fathom."¹ In this regard, *Black Shoals's* creatures are nothing but a purified expression of self-entrepreneurship—approximating what Michel Foucault, in his later writings on biopolitics, called *Homo economicus*, the subject of neoliberalism.² The piece is not just a means of visualizing abstract data but an existential model for predatory life under advanced capitalism, within a zone where nothing else—not bodies, social life, religion, or aesthetics—matters. The fact that the "creatures" have repeatedly rendered themselves extinct during the running of the piece proposes that, at its most extreme, the project be taken as a dark allegory—and a stark warning—for our precarious existence as a species whose actions are putting its very viability at risk.³

Picturing a life-world merged with capital, Autogena and Portway's starry sky presents the activity of the stock market via a technology of visualization, showing just how artificial the financial system is—and revealing the vulnerability of life exposed to a purely economic rationality. The work thus counters the idea that "the market is in human nature," a proposition that Fredric Jameson once said "cannot be allowed to stand unchallenged," arguing that the contestation of this ideology—the idea that the market is our second nature, a given, a biological fact—is "the most crucial terrain of ideological struggle in our time."⁴ Jameson was mostly concerned about the naturalization of finance, but around the same time, coinciding with the 1992 Earth Summit in Rio de Janeiro, there emerged the first glimmerings of the inverse of this neoliberal doctrine: the financialization of nature, which threatens to be even more consequential.⁵ According to the latter, the environmental crisis is first and foremost an economic crisis to be repaired via economic incentives. Such thinking is what underlies the Kyoto Protocol and subsequent efforts to stem climate change—including last year's UN climate conference in Durban, South Africa—that advocate "carbon market" mechanisms such as cap and trade. By marketizing the environment in the form of carbon credits, this system effectively amounts to the selling of the "right" to pollute. As each passing year sets a world record for the emission of greenhouse gases, dismantling this logic of naturalization becomes all the more urgent.

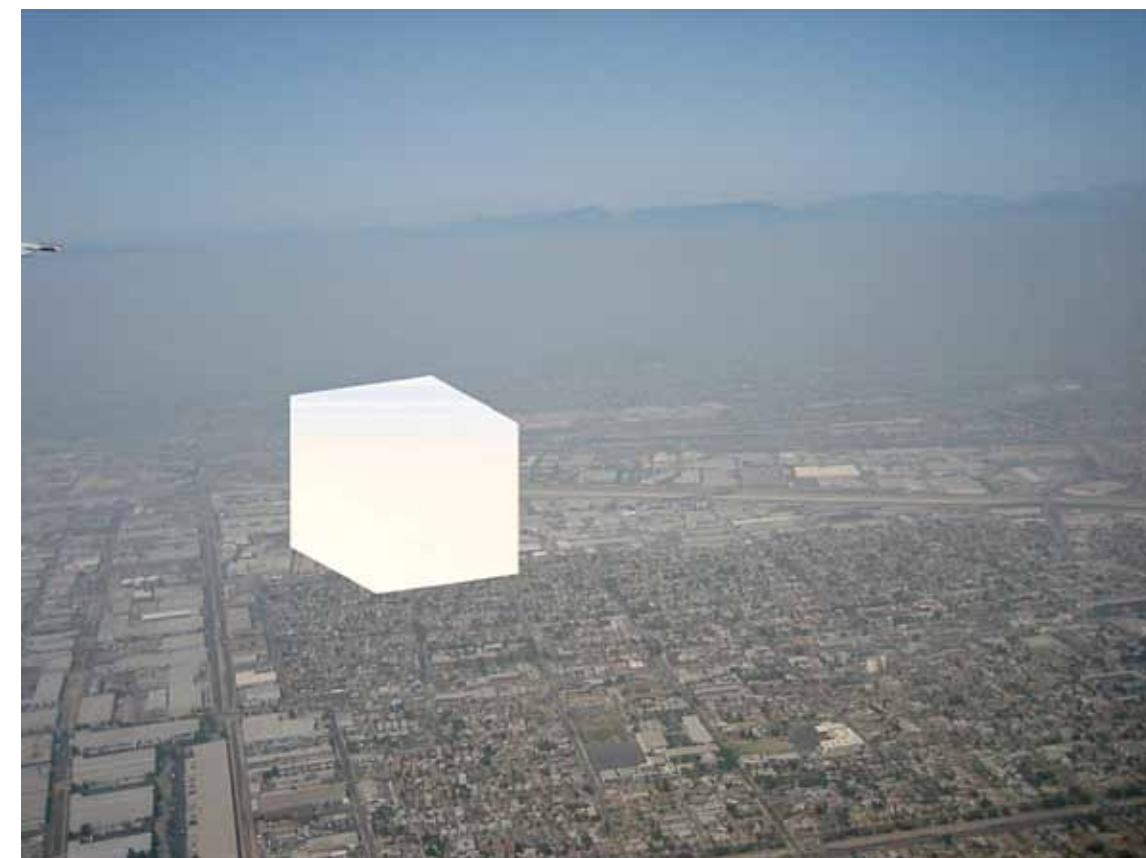
DIRECTLY ADDRESSING THIS NEED, Amy Balkin's *Public Smog*, 2004–, proposes a creative modeling of the links between nature and finance. The San Francisco-based artist's ongoing project, which will

be shown this summer at Documenta 13 in Kassel, showcases her Sisyphean attempts to set up a clean-air "park" in the atmosphere, one whose dimensions and duration are contingent on the emissions credits the artist purchases and on the length of their contracts. Having acquired the carbon offsets, Balkin, if on a small scale, subverts the cap-and-trade system by withholding the credits from industrial usage. She opened the "Lower Park" above the Coastal Zone of California's South Coast Air Quality Management District during summer 2004; the "Upper Park" existed for a year beginning in December 2006 over the European Union, then again from April to August 2010 over the United States. Balkin also installed a series of thirty billboards across Douala, Cameroon, to announce the possible inauguration of a clean-air park over Africa. A digital slide show on the *Public Smog* website reproduces the financial and legal documents from which these parks derive, including details of letters she wrote to traders to acquire offsets, as well as legal agreements concerning sales. Also included are snippets of conversations with various unidentified bureaucrats relating to Balkin's attempt to register the earth's atmosphere as a UNESCO World Heritage site. This aspect of the work raises questions about who is entitled to nominate and enforce such protections, and some of the transcribed responses—such as "Mmhm, right. Right, right"—indicate the wall of bureaucracy Balkin ran into. One Francesco Francioni explained to her that "the nomination could be possible only if all parties agreed . . . that the atmosphere is a part of the general environment of 'outstanding universal value' and that its conservation is essential to the conservation of the 'territorial' environment of every state"—as if those conclusions were questionable!

The virtuality of the project—a "park" in the air can neither be seen nor exist in any stable state—mirrors the invisibility and abstract quality of atmospheric carbon dioxide and, indeed, of climate change itself. This very invisibility eases the denial of global warming and facilitates its economic manipulation, whose problematic nature Balkin's project seeks to expose. As her website states, "Ultimately, as the logic of privatization points to the commodification of all common pool resources, a reduction model based on trade is contradictory to a socially just solution to global air pollution. We need another model. In the meantime we have *Public Smog*, a way for the global public to buy back the sky on the open market."⁶ Balkin's work thus mimics the financial practice of offsetting as a response to climate change only to reveal its specious logic. Yet in declaring that "*Public Smog* is no substitute for direct action," the artist acknowledges that merely drawing attention to the problem is not enough.



Amy Balkin, *Public Smog*, 2006–11, stills from a black-and-white and color video, 16 minutes. From Amy Balkin, *Public Smog*, 2004–. Above: Representation of the proposed park over Brighton, UK. Below: Representation of the proposed park over Los Angeles.





Above: Tue Greenfort, *Exceeding 2 Degrees* (detail), 2007, thermo-hydrograph, coffee table, wood, glass, human hair, plastic membrane, excerpts from the *Stern Review*, photocopy, photograph, climate diagram, certificate, map, dimensions variable.

Below: Alan Sonfist, *Time Landscape*, 1965–78, indigenous plant species. Installation view, LaGuardia Pl. and West Houston St., New York, 1993.

“Nature” cannot be objectified as separate and external, because living and nonliving objects are embedded within a “mesh” of social, political, and phenomenal relations.



THAT THESE IDEAS are taking on greater significance in the art world is evident in the growing number of exhibitions, catalogues, and critical texts dedicated to the topic of art and environment. For instance, the 2007 Sharjah Biennial, titled “Still Life: Art, Ecology and the Politics of Change,” explicitly focused on such practices, filtering them through the Gulf state’s many contradictions, including its reliance on a fossil-fuel economy of spectacular real-estate development and its support of a biennial that, even more than most, generates huge costs in terms of flight transportation. Responding to the biennial’s broader concerns, Tue Greenfort produced *Exceeding 2 Degrees*, 2007, a work that involved a thermo-hydrograph (which measures both temperature and humidity) installed in the Sharjah Art Museum on a table that had been fabricated from Malaysian wood in Japan before being sold in Dubai. This incarnation of the conditions of globalized production was only one part of Greenfort’s modeling of an innovative eco-institutional critique, however: The artist also raised the temperature of the entire museum by two degrees Celsius—the interval set as a plausible but now seemingly unreachable goal in the fight against global warming in the *Stern Review*, the 2006 British-government-sponsored report (extracts of which were also on view here). Another aspect of Greenfort’s work involved using the money saved on air-conditioning to protect an area of rain forest in Ecuador via the Danish environmental organization Nepenthes. Some two square miles of rain forest were purchased for around four hundred dollars. This was hardly presented as a solution—rather, the piece, in an act of critical negation, revealed the daunting complexity of the problem it addressed by entangling itself in its paradoxes. However, although it rescued only a tiny plot of land, Greenfort’s work successfully demonstrated the connections between economic, ecological, and institutional systems.

Greenfort’s work points to the inherent flaw in the logic of offsetting, which involves trading environmental damage *here* for protecting nature *there*. As critics have noted, such thinking fails to take into account the impossibility of exchangeability within biodiversity. Offsetting depends on the theory of biotic and monetary equivalence, which, in seeing nature as a commodity, overlooks the fact that life forms are embedded in singular knots of local relations, so that a South American rain-forest allotment cannot ultimately substitute for Persian Gulf air quality. Indeed, Greenfort’s work echoes the thought of eco-critics such as Timothy Morton, who has recently proposed that we begin to think of “ecology without nature,” arguing that the very idea of nature has become too ideologically compromised to warrant continued conceptual and aesthetic usage of the

term. This doesn’t mean, of course, that there isn’t an environment filled with life forms; rather, it insists that “nature” can’t be objectified as separate and external, because living and nonliving objects are embedded within a “mesh” of social, political, and phenomenal relations.⁷ *Exceeding 2 Degrees*, like *Public Smog*, visualizes all three aspects of this network.

In this regard, these projects stand in marked contrast to the idea of nature in projects by many of the 1970s pioneers of eco-art, which tended to posit nature as a separate realm of purity needing protection from industrial degradation, pollution, and economic exploitation. This defense, however, often had the effect of reifying nature—ironically and problematically paralleling the very objectifications of industry. But figures such as Joseph Beuys, Agnes Denes, Peter Fend, Hans Haacke, Helen Mayer Harrison and Newton Harrison, and Alan Sonfist nonetheless helped to focus on the representation of often ignored natural sites and processes and, like their contemporary counterparts, addressed ecological issues by visualizing what is normally hidden. Sonfist’s *Time Landscape*, 1965–78, is a telling example: The artist returned half a block in New York’s Greenwich Village to its precolonial, native condition, protected from surrounding invasive species, urbanization, and development—even if that aim has repeatedly or even continually been challenged by the multiple encroachments of Manhattan’s urban life.

INDEED, THE IMPOSSIBILITY of separating “nature” from human activities is ever more evident as ecology has become further intertwined with economic calculations and legal regulations—and as the industrial domination of nature grows more entrenched, leading to ever more horrific environmental disasters, as well as climate change. Many ecologists and atmospheric scientists argue that we now live in the Anthropocene era, when human activity has become the central driver of the planet’s geologic changes.⁸ The Indian scientist and environmental activist Vandana Shiva has defined a further challenge to the concept of the natural: “the corporate control of life”⁹ by means of biotechnology and intellectual property law. This represents a new stage in what Shiva, after ecofeminist Carolyn Merchant, calls the “death of nature,” whereby living organisms themselves have come to be seen as “man-made” phenomena, stripped of their autonomous, self-organizing capacity. It is here that groups such as the Critical Art Ensemble have staged important interventions, with projects such as *Free Range Grain*, 2003–2004 (a work made in collaboration with Beatriz da Costa and Shyh-shiun Shyu). This mobile laboratory—*cum*—performance piece traveled to various European art venues, where visitors were invited to bring in store-



Critical Art Ensemble (in collaboration with Beatriz da Costa and Shyh-shiun Shyu), *Free Range Grain*, 2003–2004. Installation view, Schirn Kunsthalle, Frankfurt, June 2003. Steve Barnes (left) and Steve Kurtz.

bought groceries for CAE to test for genetically modified ingredients. The project exposes the slippery space between the European Union’s anti-GM regulations and its open markets, which inevitably leave holes for the import of processed foods, especially from the United States, where many corporations have successfully resisted the transparent labeling of GM products. While the piece offered “a means to visualize the material reality of theories of global trade,” as the artists explained, it also demonstrated how scientific detection techniques can be utilized by nonspecialists, dramatized by the T-shirt-clad artists appearing behind tables filled

with intimidating equipment. Yet such cases also reveal a complication of the postnatural condition: Proponents of non-GM food by necessity maintain a nostalgic belief in the natural and defend it as a sphere in need of protection. Indeed, just as some eco-critics wish to put nature to rest theoretically, environmental activists such as Shiva take recourse to “the rights of nature,” which they have defended in courts of law willing to use “universal jurisdiction” to protect against the encroachments of corporate globalization.¹⁰

If art cannot match such performative legal action, it can unravel some of the utopian and critical

myths on which “the natural” rests. Works such as Greenfort’s, CAE’s, Balkin’s, and Autogena and Portway’s use the visualization of environmental, technological, and economic processes as a means of comprehension: In each case, if to varying degrees and with varying emphases, the artist gives shape to abstractions and normally invisible externalities on which both finance and global ecology depend. Yet these visualizations—according to which, appearance represents a complex index of institutional determinations, economic machinations, and subjective negotiations—are not simply mimetic but also posit transformations and deformations of the systems



Above: Nils Norman, *Geocruiser* (details), 2001–2004, mixed media, dimensions variable. Interior views.



Below: Nils Norman, *Edible Park*, 2010–, mixed media. Installation view, Zuiderpark, The Hague, 2011. Photo: Eric de Vries.



Just as nature can no longer be understood as a pristine and discrete realm apart from human activity, art's autonomy is all the more untenable when faced with ecological catastrophe.

they engage. In this sense, the entire endeavor of ecologically minded art presses the age-old question of art and life—the union of which long glimmered in the dreams of the neo-avant-garde—into literally new terrain that is not only social but more specifically biopolitical and eco-financial. Just as nature can no longer be understood as a pristine and discrete realm apart from human activity, art's autonomy is all the more untenable when faced with ecological catastrophe. Or so some artists are now demonstrating, by going far beyond institutional critique (and the eco-institutional critique of, say, Greenfort's work) and opting for an explicitly activist and interventionist practice, one that knows there is no Eden, no virgin spring to which we may return.

These agents—perhaps there is no better term—often shun institutional enclosure, privileging the importance of local projects and communities and blurring the distinctions between art and activism. A number of figures successfully straddle these contexts—artists and groups such as Fritz Haeg, Superflex, Marjetica Potrč, Art Not Oil, Allora & Calzadilla, the Yes Men, and the London-based artist Nils Norman, who has focused on producing artistic interventions that promote a model of community-driven ecological sustainability. Norman is best known for his 2001–2004 *Geocruiser*—a refurbished coach running on biodiesel, fitted with solar panels, and containing a community library and a greenhouse. His *Edible Park*, which opened in 2010 in the Binckhorst area of The Hague, serves as a more ambitious and long-term laboratory for sustainable urban planning. Mapped out in working drawings that explain the project's mixture of agricultural biodiversity, localism, and experimental collectivism, *Edible Park* was conceived in part as a response to a proposal by Rem Koolhaas's Office for Metropolitan Architecture for a new creative hub for The Hague, which would have included an amusement park and leisure district, a beach, a range of skyscrapers, and a Formula 1 racetrack—a high-impact, energy-intensive “spontaneous city,” the plans for which were unsurprisingly mothballed following the 2008 financial meltdown. In striking contrast to OMA's visions of grandeur, Norman's low-tech “counter ‘master plan’” joined organic agriculture and practices such as rainwater harvesting, forest gardening, and composting to craft his model of eco-communalism and bioregionalism, realized in collaboration with a local group of permaculture activists. Norman also worked with Dutch architect Michel Post to build a central place-making structure, a “roundhouse” with passive solar front windows and straw-bale construction. The structure's shape recalls the fantastical modernism of German architect Bruno Taut, who worked

closely with landscape architect Leberecht Migge in the 1920s on models for communal, grassroots socialism in the design of Germany's low-lying housing projects.

More than simple eco-gardening, Norman's project offers an experimental approach to agro-social construction: a test case in how to think differently about the link between ecology and economy. Norman chose permaculture as a trial system because it unfolds onto inclusive social processes, taking into account local weather, soil conditions, geography, and collective subsistence farming—all ingredients for a sustainable society.¹¹ Indebted to historical utopian models of social and economic life, such as 1960s San Francisco anarchist collective the Diggers, Norman's plan is no less ambitious but infinitely more pragmatic. It is based on the idea that changing the ways energy, food, and site design are organized will in turn alter social organization and economic and distribution systems. Although Norman's activism here takes place within an art context—*Edible Park* was sponsored by Stroom Den Haag, a foundation devoted to art and architecture—it is an outdoor, public project that to a considerable degree represents a withdrawal from art-institutional practice. (Conversely, its “artistic” categorization allowed the project to be realized in an area whose zoning restrictions normally preclude agriculture.)

In his proposal for the project, Norman asks: “Can a grassroots, biodynamic system that comes out of a utopian tradition operate city-wide, become integrated in the city's existing planning processes and possibly eventually replace them?” Or, as he continues, “Is this in itself a naive and misplaced utopian idea?” In fact, the naive and misplaced utopian idea would be *not* to try to think differently—believing against all evidence to the contrary that we can simply continue down our self-destructive path. In this regard, Norman takes up Félix Guattari's late-1980s plea that we must develop new “‘stock exchanges’ of value” that exit from the domination of “general equivalence,” according to which everything—including nature—becomes a form of currency.¹² In other words, the solutions to the environmental crisis must precede and predetermine economic decisions, not vice versa. For the many artists who have put such issues at the core of their practice, it's perfectly justifiable to claim, with a nod to Jameson, that in doing so they are occupying “the most crucial terrain of ideological struggle in our time.” □

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For notes, see page 237.



Nils Norman, *Edible Park*, 2010–, mixed media. Installation views, Zuiderpark, The Hague, 2010. Photos: Johan van Gemert.



NOTES

1. Cefn Hoile, "Black Shoals: Evolving Organisms in a World of Financial Data," January 2008, <http://cefn.com/cefn/?BlackShoalsPaper>.
2. See Michel Foucault, *The Birth of Biopolitics: Lectures at the Collège de France, 1978–1979*, trans. Graham Burchell (New York: Palgrave Macmillan, 2008), 226; and David Harvey, *A Brief History of Neoliberalism* (Oxford, UK: Oxford University Press, 2005).
3. In fact, some conservation scientists argue that we are in the midst of a "mass extinction event" as a result of human activity. See Juliette Jowit, "Humans Driving Extinction Faster Than Species Can Evolve, Say Experts," *The Guardian*, March 7, 2010, <http://guardian.co.uk/environment/2010/mar/07/extinction-species-evolve>.
4. Fredric Jameson, *Postmodernism; or, The Cultural Logic of Late Capitalism* (Durham, NC: Duke University Press, 1991), 263.
5. See Neil Smith, "Nature as Accumulation Strategy," in *Coming to Terms with Nature*, Socialist Register 43, ed. Leo Panitch and Colin Leys, (London: Merlin Press, 2007), <http://neil-smith.net/vectors/nature-as-accumulation-strategy>.
6. See Amy Balkin's website, which includes links to critical literature, including Tamra Gilbertson and Oscar Reyes, *Carbon Trading: How It Works and Why It Fails* (Uppsala, Sweden: Dag Hammarskjöld Foundation, 2009), <http://publicsmog.org>.
7. See Timothy Morton, *Ecology Without Nature: Rethinking Environmental Aesthetics* (Cambridge, MA: Harvard University Press, 2007) and *The Ecological Thought* (Cambridge, MA: Harvard University Press, 2010).
8. Dipesh Chakrabarty surveys the scientific consensus and points to one historiographic challenge: the imperative to think the deep history of "species history of humans" in conjunction with the "global histories of capital," in "The Climate of History: Four Theses," *Critical Inquiry* 35, no. 2 (Winter 2009): esp. 212.
9. This is the title of Vandana Shiva's contribution to Documenta 12's "100 Notes—100 Thoughts" publication project (Ostfildern, Germany: Hatje Cantz, 2011).
10. Among the pertinent examples here are the Bolivian 2011 "Law of Mother Earth" and the 2010 Ecuadoran lawsuit against BP following the *Deepwater Horizon* disaster.
11. See, for instance, "Ten Principles for Sustainable Societies," in *Alternatives to Economic Globalization: A Better World Is Possible: A Report of the International Forum on Globalization*, ed. John Cavanagh and Jerry Mander (San Francisco: Berrett-Koehler, 2003), 77–104.
12. See Félix Guattari, *The Three Ecologies*, trans. Ian Pindar and Paul Sutton (London: Athlone Press, 2000), 65.