



Project
MUSE[®]

Today's Research. Tomorrow's Inspiration.

Climate Change, Environmental Aesthetics, and Global Environmental Justice Cultural Studies

Michael Ziser and Julie Sze

Many commentators in the U.S. academy, press, and nonprofit and activist worlds have recently argued that an effective response to the unprecedented global scale of the ongoing climate crisis demands a new kind of environmentalism. In the realm of public activism, Ted Nordhaus and Michael Shellenberger assembled a variety of preexisting critiques into their notorious position paper “The Death of Environmentalism,” which argued that “modern environmentalism is no longer capable of dealing with the world’s most serious ecological crisis” and that “a more powerful movement depends on letting go of old identities, categories and assumptions.”¹ The plea to reorient environmentalism away from its traditional focus on resource conservation, wilderness preservation, and pollution prevention and cleanup has become the hallmark of some who see global climate change (GCC) as an issue that supersedes all other ecological agendas. The underlying problem is one of scale. For one thing, GCC is too big a problem for any current institutional actor. More importantly for this essay, the implicit assumptions of global “Environmentalism 2.0,” as the news media have dubbed it, have broad consequences for the structure of the environmental movement itself and even for the fundamental terms in which “the environment” is understood in the cultural productions that so often

shape or at least articulate consensus in contemporary societies. The very scale of the global context presents deep challenges to the customary ways that the West imagines basic concepts like *place*, *agency*, and *justice*. As literary ecocritic Ursula Heise has pointed out, the realist narrative structures that sustained earlier phases of environmentalism—structures that made use of well-defined places (Hetch Hetchy, for example), iconic human agents (John Muir), and readily grasped mechanisms of cause and effect (damming destroys alpine valleys)—may be inadequate to represent an invisible global crisis, the responsibility for which lies in billions of widely dispersed individual and corporate actions and the effects of which are first indicated not in new forms of tangible damage but as abstract upticks in statistical risk.²

Fredric Jameson, speaking of the general significance of the sense of the global that is brought about by planetwide crises like GCC, has noted that new forms of nationalism are apt to arise to defend “national difference” against the abstracting and leveling mandate of large-scale climate regulation.³ In the environmental movements of non-Western countries, this phenomenon has often taken the form of nationalist arguments against the environmental deprivations of international extractive industries and manufacturers.

Although the United States is not immune to this kind of environmental appeal, matters are complicated considerably by several relevant historical facts. For one thing, the United States has long been the world’s largest polluter and emitter of greenhouse gasses (GHGs) both in terms of its domestic industries and its financing and consumption of polluting industries elsewhere in the world. Because of its simultaneous role as a single nation (prone like any other to fits of domestic eonationalism) and a transnational ideological force that drives much of the current economic globalization (often called “Americanization”), the United States is in an unusual position with regard to the cultural politics of climate change. Any American cultural consensus on climate must grapple with the finitude of an American ideology and power long associated with nature, a subject out of favor since the end of the Cold War. Indeed there are signs that U.S. environmental culture, without waiting for intellectuals to sort out the theoretical dimensions of the new representational paradigm, is already undergoing a rapid and difficult shift toward the undefined target of climate-change discourse. This essay explores the aesthetic and ideological dimensions—some more obvious than others—of this new phase of environmental representation, with a particular concern for the fate of environmental justice as a core component of global Environmentalism 2.0. The environmental justice movement (EJM),

despite its major differences with traditional environmental preservationism, shares with that earlier ideology an emphasis on place- and community-based measures and standards of justice.⁴ As we see it, the palpable investment of some forms of new environmental discourse with geopolitical anxieties (particularly directed toward China) threatens to obscure the EJM's crucial revisions of older forms of environmentalism while uncritically redeploing some of the most problematic racist and nationalistic tropes of the latter. Much of the essay is devoted to teasing out some emblematic moments of this troublesome reactionary trend. From our perspective, an effective response to GCC requires a more careful integration of global environmental justice, environmental justice cultural studies,⁵ and ecocriticism in order to produce new kinds of ecocultural narratives that do not pit nation against nation, race against race, or species against species. Despite the negative tone of our critique, we remain convinced that clarity about human and nonhuman standards of true environmental justice can be advanced—even in an age of environmental crises of global scale—by the cultural sphere's privileged ability to articulate differences in worldview, facilitate mutual understanding, and even trigger the empathy that lies at the heart of global environmental justice.⁶

The growth in cultural production related to GCC looks remarkably like the graph of the historical rise in atmospheric carbon dioxide used to great effect in *An Inconvenient Truth* (2006): consistently low numbers preceding a breathtaking spike. In the case of climate-change culture, the beginning of the spike can be pegged at 1989, when Bill McKibben wrote the first general-audience guide to the phenomenon, *The End of Nature*. The peak is not yet in sight: 2004 witnessed the first installment of Kim Stanley Robinson's climate-change trilogy, *Forty Signs of Rain*; global warming skeptic Michael Crichton's hysterical polemic *State of Fear*; and the first major cinematic treatment, Roland Emmerich's *The Day After Tomorrow*. In 2006, Al Gore's *An Inconvenient Truth* and subsequent Nobel Peace Prize focused national and international attention on the problem. Even more recently, GHG environmentalism has continued to take on new subject matter (Hurricane Katrina, for instance) and to expand into new genres, including school texts, policy statements, nonfiction books, documentaries, and television specials. And the effects of climate-change discourse are not restricted to works explicitly about global warming: many more books and films on apparently unrelated subjects bear traces of new GHG-environmentalist perspective.

The specifics of all of these GCC works are of course quite various, and already their diversity precludes a truly comprehensive sur-

vey and analysis. Such a caveat notwithstanding, there are a number of significant trends in GCC culture that we would like to identify and analyze by way of discussing a set of emblematic cultural texts ranging from environmental photography to policy guides to documentaries. The first trend is the by-now fairly ritualized forswearing of older conservationist and preservationist environmental models. The second is the elision of specific race- and class-based environmental injustices as key aspects of the GCC narrative. The third is the introduction of nebulous, but nevertheless readily identifiable, cultural anxieties about the geopolitical rise of China and the associated decline of U.S. global power. And the fourth, to come full circle, is the redeployment of traditional U.S. environmental tropes in ways that soft-pedal environmental justice goals in favor of a geopolitical agenda that aims to preserve U.S. economic and political power. As we tease out the details of this pattern, we want also to be sensitive to moments in which expressions of global environmental justice breakthrough the consolidating narrative, becoming on occasion visible alternatives to that narrative. We undertake this latter task primarily through a reading of a documentary, *Up the Yangtze* (2007), which we argue moves successfully between the multiple scales of the individual, national, and global in ways that escape some of the analytic and political traps we warn against. Although we cannot yet point to a full-fledged alternative to Environmentalism 2.0, we hope at least to make clear the hazards of a “new” environmentalism that fails to come to grips with the shortcomings it inherits from the old, particularly when it comes to race, nature, and nation.

America's Panda Bear

In the winter of 2007, the most effective image to date of GCC went viral on the internet. A photograph purportedly showing two polar bears dramatically stranded on a shrinking ice floe, first posted to the Canadian Ice Service's website, made its way into the larger environmental networks before spilling out into virtually every email chain letter and news page on the Web. By the time the photo made it into the print media, the import of the image had been established: “They cling precariously to the top of what is left of the ice floe, their fragile grip the perfect symbol of the tragedy of global warming,” began the accompanying text in the London *Daily Mail* of 1 February 2007.

As an illustration of imminent extinction, the picture hardly could be more compelling. Driven to the edge of a lonely chunk of



Figure 1. Amanda Byrd, untitled, Beaufort Sea, August 2004. Public domain.

ice literally hollowing out beneath them, the two bears stare into the camera with a look of interest that can easily be construed as hunger or even as a request for help. An inverted Adam and Eve, isolated and about to be extinguished along with their icy paradise, the bears spoke to a host of sentiments clustered around common Western tropes of wilderness, human dominion, and animal welfare. The public case for the global warming crisis, almost twenty years in the making, appeared finally to have found a consensus-clinching image.

As became clear in succeeding weeks—much to the glee of the climate-change-denial industry—the photos were not quite what they purported to be. They had been pulled significantly out of context and did not in fact constitute reliable visual evidence of arctic warming's effects on polar bears. The images were originally taken from the deck of the icebreaker *Louis St. Laurent* by graduate researcher Amanda Byrd during a scientific expedition to monitor the effects of warming in the Beaufort Sea in August 2004, a season when the ice melt seen in the photos is expected. And, far from being stranded and destined to starvation, the polar bears in the pictures were healthy and cruising the fragmented edges of the ice sheet for their prey. Dan Crosbie, another participant in the

research mission, circulated the images without Byrd's knowledge and with an inaccurate caption to the Canadian Ice Service (charged with monitoring ice and icebergs in Canadian waters), whence the image and its interpretation began to migrate across the Web. The *New York Times* printed a correction one month (3 March 2007) after the original story—the correction contained additional errors—and the story switched from being about the science of climate change to cultural representation of climate politics.

The underlying ecological point of the image was certainly sound, as the most recently collected empirical evidence shows Arctic ice—particularly the intensively studied Greenland ice sheet—to be disintegrating at a significantly higher rate than even the most pessimistic models had predicted.⁷ The two major U.S. populations of polar bears, which survive largely on the populations of seals that they haul out on the ice, are likely to be cut off from their main food source by the middle of the twenty-first century. Preliminary data from the most recent field season in the Arctic (2008) suggest decreased body weights and increased incidence of cannibalism. On 14 May 2008, yielding to scientific consensus and legal pressure from environmental groups, Bush administration Secretary of the Interior Dirk Kempthorne accepted the recommendation of the U.S. Fish and Wildlife Service to list the polar bear as a threatened species under the Endangered Species Act (ESA), potentially opening the door to protective measures that include the regulation of GHGs that are the major contributing factor to the loss of the bears' habitat. The public interest aroused by the plight of the polar bears contributed enormously to the first procedural acknowledgment of a federal obligation to regulate carbon emissions.

The runaway success of the stranded polar bear as an image of the perils of global warming depends upon much more than its intrinsic suitability (or lack thereof) to the issue at hand, and closer attention to it can help us understand the ways in which the GCC phase of environmentalism connects with other contemporary concerns, as well as with environmentalism's earlier history. As many have noted, the polar bear photo works in environmental terms because of its associations with past animal-welfare campaigns, particularly the public outcry against the clubbing of fur seals in the Canadian arctic regions and the harpooning of whales in the northern Pacific Ocean and the Arctic Sea. The power of so-called charismatic megafauna as a marketing vehicle has long been exploited (if also bemoaned) by environmental groups: pound for pound, polar bear plush toys are probably as effective at persuading carbon users to change their ways as are copies of the comprehensive report from the International Panel on Climate Change (IPCC). Indeed, shortly

after the polar bear images circulated, nonprofit group Environmental Defense offered a small stuffed panda bear in return for a monetary donation. Likewise capitalizing on the pathos of the scene, the National Resource Defense Council commissioned a computer-animated fund-raising ad in which a polar bear stands on an iceberg as it crumbles into the international distress call, SOS. And Al Gore's *An Inconvenient Truth* featured a computer-animated polar bear swimming through a vast sea toward a tiny and fragile sliver of melting ice.

In addition to its heavily sentimental appeal, the polar bear draws on a long-standing American cultural celebration of pristine and wild environments. As Bill McKibben noted with alarm in the first major general-audience book on global warming, *The End of Nature*, the intrusion of man-made pollutants and GHGs into the remotest parts of the globe forecloses access to the imaginative resource of wilderness that has nourished American cultural mythology for two centuries. Whether or not we concur with William Cronon that this wilderness mythology is on the whole detrimental to environmental health, McKibben is certainly correct that the closing of the last possible terrestrial frontiers—the polar regions and the global atmosphere—represents a major trauma to one of the deepest-seated cultural narratives of the United States. With the polar bear drowns the dream of a space beyond the political status quo, the disappearance of a territory for which we—as individuals and as members of an expanding national empire—may all light out when the problems of society become intractable.

It is here that the prevalence of the polar bear image ceases simply to be about allegedly bleeding-heart sentimentalism and begins to take on its larger significance in global geopolitics. Not simply a conservation challenge or a cute and furry object of sentimental concern or a convenient vehicle for wilderness preservation, the polar bear bespeaks an anxiety about a new world order in which the United States is no longer the top predator in the international food chain. It carries a message largely (but by no means solely) to conservative citizens that the days of American dominance are at an end, and it positions the global environmental crisis as a matter of national and ideological self-preservation. Polar bears are, after all, powerful incarnations of the go-it-alone, tough-as-nails mythology that informed the masculine and colonialist aspects of nineteenth- and twentieth-century environmentalism, when prominent conservationists like Teddy Roosevelt explicitly connected imperial American geopolitical power with fearsome predators and the men willing to hunt them on honorable terms. As Amy Kaplan has noted, ostensibly domestic discourses surrounding issues of race, gender,

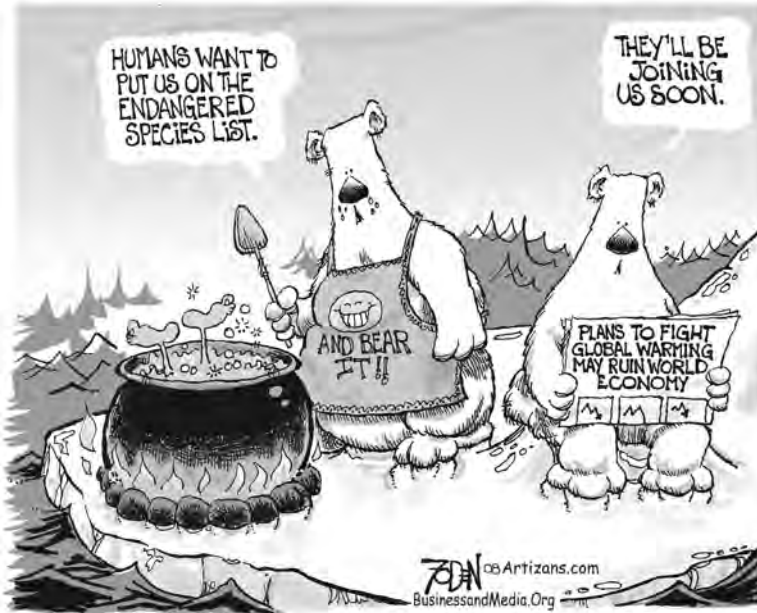


Figure 2. Glenn Foden, untitled, 4 May 2008. Reproduced by courtesy of the author.

and citizenship were in dialogue with the radical expansion of U.S. imperial ventures into Latin America and the Pacific Rim.⁸

The conception of the United States as an “empire for liberty,” first hatched during the failed European revolutions of 1848 and pursued with increasing vigor after the Civil War, depended on a double projection of dominance and protection emblemized by the teddy bear, which owes its birth to a newspaper cartoon depicting President Theodore Roosevelt’s refusal to shoot a black bear that had been treed by dogs and tied down for killing. The iconic endangered polar bear reiterates and underscores the teddy bear’s legacy of a masculine individualism that must be infantilized in order to be sheltered from historical change. These contradictory forces, at play in the polar bear as a site of U.S. male identification, frequently emerge in current discussions of GHG regulation. As right-wing TV host Glenn Beck once shouted out revealingly in an interview with climate-change denier Sen. James Inhofe (R-Oklahoma): “For the love of Pete, they’re big, angry bears. They eat people. Not that I say we go out and kill all of them.” A widely distributed right-wing political cartoon depicting anthropomorphic polar bears on an implicitly cannibalistic cookout shows that the unsustainable logic of this kind of dual identification does nothing to prevent its rhetorical use.

Despite its convoluted reasoning, it is hard not to miss the ancillary message of a cartoon like this: the natural American—portly, white, middle class, and fond of outdoor cooking—is under threat from the latest phase of environmentalism, the global effort to control GHGs. Beyond the immediate policy controversy, then, what we are seeing in this cartoon and in “polar bear politics” more generally is a cultural adjustment to GCC’s challenge to twentieth-century U.S. habits of identification. Herein lies the peril of the uncritical deployment of certain kinds of anti-global warming rhetoric, even when—precisely when—it seems to offer the most effective public relations possibilities. Class, race, and gender identities that were partly formed during an earlier moment of national environmental self-definition and imperial expansion are now eroding at the end of the “American Century” under the strain caused by a new environmental paradigm. Like a crumbly ice floe under the paws of a starving polar bear, the United States finds itself sinking under its own weight.

It is here that a new form of environmental nationalism emerges to rescue this entire material, cultural, and psychological complex. Senator John Warner (R-Virginia), in a statement made during the Environmental Protection Agency’s discussion of a possible ESA listing, curiously proposed that the polar bear is “America’s panda bear.”⁹ The senator’s nomination of the polar bear, which has never held a central place in the American national inventory of representative animals (the grizzly bear, the bald eagle, the mustang, etc.), as the correlative of the national symbol of China makes explicit that the most salient concern of the new environmentalism is the threat to the twentieth-century pattern of American dominance on the world stage by Chinese industrial, economic, political, and military power. Far from being discarded as archaic, environmental tropes born at the end of the nineteenth century, when the United States began to project its power beyond its borders in earnest, are being retooled to address a reversal of fortune in which the United States finds itself with shrinking influence and relevance. No thorough consideration of climate-change politics can ignore the multiple lines of anxiety that an apparently innocuous photograph may arouse.

In writing about the symbolic role of China in the United States, prominent Asian-American playwright David Henry Hwang suggests that the United States was “gearing up to make China its next big enemy, [but] was then distracted by 9/11.”¹⁰ As the terrorist attacks and the wars in Afghanistan and Iraq settle into the political background, Hwang predicts that “competition between the U.S. and China [will] continue to intensify” and that ultimately Americans

will experience a new round of Yellow Peril rhetoric that recalls and updates the host of nineteenth-century anti-Chinese cultural attitudes and policies culminating in the 1882 Chinese Exclusion Act, the first racial exclusionary immigration law in the United States. Signs of this resurgence are already visible in the cultural landscape. As investigative journalist Donovan Hohn recently noted in an article about the search for contaminated toys, "something changed" in American attitudes toward China in the late 1990s as a result of the growing trade deficit. China, Hohn writes, "began to cast a shadow and a spell over the American imagination. . . . We no longer know what to make of China: Is it our ally or our enemy? Our rival or our doppelgänger? A repressive Communist dictatorship or the new century's new land of wealth and opportunity? In a way, thanks to China, we no longer quite know what to make of ourselves."¹¹

Hohn's and Hwang's questions touch upon the most fundamental anxieties raised by Chinese power. Chinese economic growth and its material consequence, environmental pollution, are staggering. Western environmentalists have despaired at China's voracious appetite for natural resources and the ensuing environmental damage. As the *New York Times* investigative series "Choking on Growth" documents, the scale and the scope of China's impact on the global environment are immense and tragic, whether measured in land, air, water, animals, or people. China has taken about two decades to pollute as much as the West has done from the Industrial Revolution in the nineteenth century to the present day. In just twenty years of economic growth, China has overtaken America as the world's leading contributor of carbon emissions, in large part because of its manufacturing prowess. But lingering behind this reality is another: that the bulk of Chinese growth has been fueled by Western economic interests wishing to take advantage of China's low labor costs and political stability. GCC is largely the revenant environmental price of Western economic systems that have sought to concentrate environmental costs in the Third and Second Worlds. The most straightforward expression of this is the frequently cited fact that the United States, with 5 percent of the world's population, emits 25 percent of the world's carbon dioxide. Responsibility for GCC, however, is increasingly being placed at the feet of Chinese consumers choosing the accoutrements of life that are fundamentally Western, with automobiles replacing bicycles, with bigger homes, and with increasing material affluence. Chinese automobile production jumped from 42,000 cars per year in 1990 to over 2.3 million a decade later, and all current estimates are that the numbers of cars on the road in China will double every two years. Despite this rapid growth, this represents a relatively small portion of the

approximately 72 million automobiles produced each year. In China's affluence and power, we see both a real increase in GHG emissions and the projection of Western responsibility for historical carbon emissions onto a convenient geopolitical scapegoat and rival. Fear about China's ability to touch distant polities—exemplified by the soot that crosses east over the Pacific to affect the western United States—is amplified by its ability to stand in for Western concerns about our culpability in polluting ourselves.

The proxy function of carbon emissions may help explain why environmental arguments that have met with little success in domestic U.S. politics have proved much more successful when wielded as critiques of China. American news coverage of the 2008 Summer Olympics in Beijing, for example, was a potent example of this repurposing of environmental discourse to geopolitical use. NBC's early coverage of the Olympics focused on the extreme air pollution produced by Beijing's factories, construction sites, and motor vehicles. Ostensibly a story about public health and the health of high-performance athletes, the unmistakable effect of the drumbeat of "Chinese smog" reports was to correlate Chinese geopolitical threats with environmental threats. When the world-record holder in the marathon, Haile Gebrselassie of Ethiopia, declined to compete in the Olympic marathon in order to preserve his health, the international news coverage was intense, as it was when the American bicycling team arrived in the Beijing airport wearing black masks designed to filter out particulates they claimed might affect their performance and their long-term health. During the games themselves, various U.S. media outlets made coverage of the atmosphere a major part of their narrative line about the Beijing games. The Associated Press set up an air-monitoring station on the Olympic Green. Media Web pages sported air-quality widgets that kept a running record of air quality—a new stream of information incongruously positioned alongside the familiar stock, bond, and commodity tickers. The other staple image of China covered by the U.S. media, the Great Wall, was shown with little subtlety as a symbol of China's recent isolation from the world and its current role in rendering territorial borders irrelevant. These contrasted images, the Wall and the Smog, help support the U.S. claim on the atmospheric commons that until recently it had insisted on relegating to the global environmental commons as an economic and political externality.

This kind of symbolic substitution is easy enough to recognize as a piece of nationalistic theater designed to play on the fear of environmental contagion in order to encourage geopolitical containment, but part of our purpose here is to suggest that this apparently superficial trope is so deeply entwined with North American envi-

ronmental and cultural history that it will help shape even the global environmental movement. If we return to the photographic image of “America’s panda bear” on its collapsing pillar, we can see in it not just a replay of twentieth-century preservationist and conservationist tropes but also an echo of much older American environmental trope that links America’s fundamental self-conception as “nature’s nation” to its long-standing anxiety about the fate of its civilization. The locus classicus of this link is the last panel of nineteenth-century painter Thomas Cole’s famous five-part meditation on *The Course of Empire* (1836). Subtitled *Desolation*, the painting comes after four others charting the progress of civilization from the “savage state” to the “pastoral state” to the harmonious urban “consummation”—and then to the internecine “destruction” phase. Like the polar bear photograph, Cole’s painting features a vertical architectural element on the verge of collapse as synecdoche of a culture on the cusp of disappearance at the hands of natural and man-made forces. Sentience is being evacuated from the scene, just as the polar bear image depicts the imminent and absolute obliteration of life in the indifferent horizon. Even the atmosphere is clearing as the smoky fires of humankind diminish.

The explicit moral of Cole’s painting is that the cultural supersession that marks the development of civilization—a topic of much concern to Jacksonian America—is cyclical, with landscapes of decay representing the implicit materials for new power.¹² As decisively ruinous as GCC is often depicted to be, its main threat is to the Western wealth embodied in the huge infrastructural investment in the climatic status quo—the manipulation of soils and watersheds for industrial agriculture, the concentration of urban megalopolises along the coast, the heavy economic reliance on ports to facilitate global trade—and no serious scientific model envisions complete human extinction. The ruin of a particular civilization, be it the classical landscape in Cole’s imagination or the collapse of the American economic model, is held out as both a threat and as an inevitable stage of regeneration.

The main architectural venue for the Beijing Olympics plays upon this set of paradoxes. After basic design work by a Chinese-Swiss collaboration, the Beijing National Stadium was built by multinational construction giant Arup using the most advanced engineering techniques in the world. Patterned after traditional Chinese ceramics, the building is meant to evoke, according to its designers, a “porous . . . and a collective building, a public vessel.”¹³ The design serves as a sort of architectural preemption of criticisms from Western observers primed to draw conclusions about China’s autocratic government from its Olympic façades as it toys with the



Figure 3. Thomas Cole, *The Course of Empire: Desolation*. Collection of the New York Historical Society, 1858.

classic Western tropes of civilizational development and decay as pictured by Cole. Nicknamed “the Bird’s Nest,” the stadium casts an ironic glance in the direction of the West’s habitual reference to the organic as the touchstone of design (and also to the orientalizing habit of ascribing naive naturalism to Eastern cultures). A technologically marvelous version of the nest in Cole’s *Desolation* (visible atop the column in the foreground), the stadium capitalizes on the paradox of cultural supersession in the iconic painting. From the West, it is difficult to tell whether we are looking at a ruin (ours) or a new (Chinese) cycle of history.

The complex interplay of basic U.S. notions about the cycles of history, the finitude of empires, the political meaning of nature, and the status of China as the main economic producer and polluter in the world all help explain the current appeal of Canadian photographer Edward Burtynsky, who has made a name for himself documenting what the major exhibition of his work calls “manufactured landscapes,” large-scale man-made alterations in the environment. Burtynsky’s earliest works depicted—with a minimum of editorial context—the landscapes of resource extraction in North America: the gigantic quarries of Vermont, Pennsylvania valleys decimated by steel-smelting operations, the toxic remnants of an Ontario uranium mine, etc. High-gloss prints of enormous size, these photographs deliberately played with and advanced beyond the aesthetics of the industrial documentary photography of Bernd and Hilla Becher, David Plowden, Andrew Borowiec, and others. The Bechers

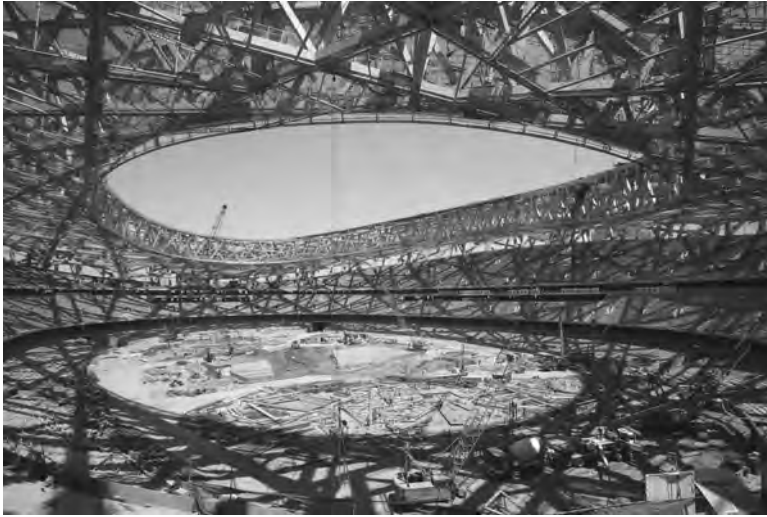


Figure 4. Beijing National Stadium. Photograph by Ben McMillan. Courtesy of the Arup Group.

began photographing the industrial architecture of the United States and Germany in the 1950s, when factories that had served the prewar industrial economy were being abandoned in large numbers. Aiming to memorialize this passing era and its functionalist aesthetic, their work organizes deteriorating structures into “typologies” that are both quasi-scientific and vaguely elegiac, much in the tradition of Karl Blossfeldt’s earlier systematic nature photography.¹⁴ David Plowden, working over the same time span as the Bechers, produced a frankly nostalgic “record of the American presence”: in his five-decade career, industrial Americana begins its journey toward fetish object.¹⁵ The people who inhabited and still inhabit these industrial landscapes have not gone entirely without documentation. Sebastião Salgado’s stunning *Workers*, a collection of photos taken in many of what would become Burtynsky’s favored locales (the ship-breaking yards in Chittagong, Bangladesh; Chinese industrial assembly lines; and open-pit mining operations), describes itself as “a farewell to a world of manual labor that is slowly disappearing” and concentrates on the antiquated heroism of physical toil.¹⁶

What distinguishes Burtynsky from these artists is his deep interest in the aesthetic experience of his subject matter. The large size of Burtynsky’s prints, as well as his use of color film, immediately mark him as something other than a scientific documentarian or architectural historian. (All of the aforementioned photographers

worked in black and white.) Here another, explicitly environmental genealogy for Burtynsky can be traced from the wilderness sublime pioneered by Thomas Cole, Frederic Church, and other Hudson River school painters a century and a half earlier and continued by wilderness photographers like Carleton Watkins, Ansel Adams, Eliot Porter, and Galen Rowell. James Jeffrey Higgins, a younger American photographer in Ohio doing work similar to Burtynsky's, has explicitly traced his gorgeous portraits of dying mill towns to the Hudson River school.¹⁷ And besides gesturing toward this nineteenth-century art-historical lineage, many of Burtynsky's compositions are at times distinctly reminiscent of the iconic styles of twentieth-century painters and sculptors like Jackson Pollock (wires), Mark Rothko (quarries), John Chamberlain (oil drums), Richard Serra (ship-breaking), and Charles Sheeler (abandoned factories). Given the combination of high sensation, exquisite beauty, low information, decontextualization, and art-world allusiveness in his photographs, Burtynsky's work has sometimes been received as at least flirting with a particularly degrading form of "ecopornography." Perhaps because of the potency of that interpretation, Burtynsky has abandoned his early ambivalence about the intended political meanings of the images, and his most recent collections include explicit and impassioned environmentalist messages. Burtynsky's photos are now firmly positioned as evidence of the global production, pollution, and waste system and as a provocation aimed at reforming them: he is currently the aesthetic standard-bearer of global environmentalism.

Whatever one may think about the political effects of Burtynsky's early work, he has taken a further turn in complexity in recent years as he has begun to concentrate on China, the industrial engine of the world economy, as well as the graveyard for international consumer waste. (This is the place to which all of Plowden's American industries and Salgado's manual laborers "disappeared.") His first Chinese project, on the largest landscape-engineering project in the history of the world, the Three Gorges Dam on the Yangtze River, offered an opportunity to meditate further on the tension between the dialectical production of civilization and destruction of nature.

In earlier postindustrial photography, including Burtynsky's own, such a landscape would denote the decay of the industrial promise, the nostalgic desire for the Machine Age. In an earlier environmentalist tradition, it might represent the ugly underbelly and unseen costs of Western material progress. But this image, like all of the images of the Three Gorges Dam Project, is as much about the future progress of China as it is the decline of Rust Belt North America. It is as much about clean hydroelectric energy as about moder-



Figure 5. Edward Burtynsky, "Wan Zhou #4," Three Gorges Dam Project. Reproduced by courtesy of the artist.

nity's destructive addiction to fossil fuels. Indeed, the power of the image resides in the way it superimposes Western decline over Chinese resurgence. Much like the polar bear photo and the Beijing National Stadium, this photo offers its Western audience no logically stable perspective from which to witness the scene. Are we the threatened polar bear, the threat to the polar bear, or the third-party rescuer of the polar bear? Are we the tiny Chinese workers in the photo, the capitalistic force helping remake the Yangtze, or the sympathetic onlooker ready to offer a softer path to modernity?

This fraught circuit of ecological witnessing becomes even more central in Burtynsky's subsequent work, simply entitled *China* (2006), which revisits the tropes and even the compositional habits of earlier Western industrial photography. What has changed since that earlier moment in photographic history, of course, is the radical outsourcing of Western industrial production to the Far East and the rise of climate alteration as an overriding environmental problem. Burtynsky's collection explicitly addresses the former, and his photos are easily legible as a retread of industrial photography in a new locale: the Chinese version of an old anti-industrial environmental ethic.¹⁸

But also present in Burtynsky's work on China is an inchoate, often implicit acknowledgment of something not present in earlier

documents: fossil fuels and their associated carbon consequences as the underlying facilitator of the global industrial system. Beginning with an early series of photos on automobile tire-disposal yards and oil fields in California and continuing through images of immense windrows of Chinese coal, Burtynsky's work is held together by a carbon thread that marks it as unmistakably the product of the new environmentalism.¹⁹ In his hands, the old aesthetics of the sublime that once infused U.S. nationalism in particular with an unshakable transcendental basis is transformed into an image of political and environmental horror: the vast ranks of Chinese workers signaling a population destined to replace the United States as world leaders, the pervasiveness of global climate pollution leaving nowhere to which Westerners might retreat. This is now the ground condition for environmental discussion, and a great deal hinges on the way that this future is represented in Western culture.

A documentary film made about Edward Burtynsky's photography, *Manufactured Landscapes*,²⁰ exemplifies the pitfalls along this road. After a lengthy dolly shot demonstrating the enormous scale of Chinese factories, the film captures the encounter between the Western individual (Burtynsky) and a huge assembly of canary-uniformed factory workers, shown briefly in small groups before the camera pans out to frame the workers as Burtynsky does—as a literal yellow horde. Burtynsky's emphasis on inhuman scales and landscapes is reflected in the film's reluctance to engage deeply with the individuals it encounters within the industrial landscape: Bangladeshi ship breakers, Chinese electronics recyclers, and a forlorn grandmother evicted from her Shanghai apartment building ahead of its scheduled demolition. Despite Burtynsky's offhand admission that his own photographic practice is itself an industrial practice (contributing, for instance, to the massive dioxin contamination from Eastman Kodak's manufacturing plant in Rochester, New York), neither the film nor the original photographs makes explicit the connection between Western consumption and Chinese pollution (even if his artist's statement gestures toward a critique of consumerism).²¹ When the film does turn briefly to the causes of the problem it has documented, the superfluous consumption it targets is not that of North American importers of Chinese goods but rather of the new Chinese middle class, shown furnishing its spacious modern apartments and dancing at nightclubs. In the most generous interpretation, this is a missed opportunity to illustrate the global economic system that creates both site-specific and atmospheric environmental damage. At worst, it represents a more widespread tendency to subsume the global ecological crisis under the geopolitical rivalry between the West and China.

The largest potential loser in this kind of elision is the EJM, both in its domestic U.S. form and its tentative extension into global organizing. The EJM arose in the 1980s and flourished in the 1990s as a response to a blind spot in traditional environmental advocacy. The emerging social movement and academic field of environmental justice offers another challenge to the idea of nature as a category unmarked by race or class. At the core of the term *environmental justice* is a redefinition of the environment to mean not only wild places, but the environment of human bodies, especially in racialized communities, in cities, and through labor (exemplified by the movement slogan that the environment is where people “live, work, play, and pray”). The EJM aims to combat a broad range of environmental problems—from nuclear contamination on Native American lands, and oil-refinery pollution in black communities in Louisiana and California, to epidemic rates of child asthma in poor urban neighborhoods throughout the nation, to name but a few.²² Climate change is also the focal point of global coalitions calling for *climate justice* developed from the Bali Principle of Climate Justice modeled on the Principles of Environmental Justice.²³ Such coalitions have also become increasingly vocal and visible at global forums on climate change (including the United Nations Climate Change Conference in Bali in late 2007 and the 2008 summit of indigenous peoples from throughout Latin America, where participants called for the rich countries to pay for community-based forest protection efforts in the global South).

GCC environmentalism as represented by Burtynsky’s images does not extend environmental justice so much as continue its erasure under the abstractions of the sublime and a focus on massive scales of climate change. The EJM’s critique of the significant nation-, race-, and class-based differences in the burdens of, culpability for, and perception of pollution (including GHGs) is suspended in an artistic medium that is largely uninterested in the personal, communal, and local histories of environmental injustice that the EJM relies upon in its public activism. A clear example of this blindness of an Environmentalism 2.0 that fails to incorporate the aims of environmental justice while actively trading on suspect political tropes is the work of self-described left environmentalists Michael Shellenberger and Ted Nordhaus. Their recent blueprint for climate politics immediately raises China as the central actor in the next wave of environmentalism, opening with a paralyzing array of statistics establishing the magnitude of Chinese carbon emissions in coming generations. For the principals of the Breakthrough Institute (Oakland, California), such facts demand a technological U.S. response: the point of the gambit is to argue for massive federal

subsidies for the development of new technologies. The Chinese menace in their view requires a radical break from the piecemeal democratic patchwork of current environmentalism in favor of large-scale public expenditures exclusively targeted at the research-and-development costs associated with green technologies. Not content to merely change the subject away from environmental justice, Nordhaus and Shellenberger actively attack the EJM, calling for a moratorium on the kinds of community organizing that have been the hallmark not just of NIMBY (not in my backyard) preservationists among the elite but also of economically disadvantaged local neighborhoods fighting against the disproportionate harmful health effects caused by heavy industry. Clearly Nordhaus and Shellenberger believe that community-based environmental justice poses a threat to the smooth operation of a highly capitalized, global-scale Environmentalism 2.0.²⁴

The race and class gap inherent in Breakthrough-style climate politics emerges starkly in Daniel Gold and Judith Helfand's *Everything's Cool* (2007), a documentary film about the barriers to a climate action consensus in the United States that stands on both sides of the 2005–6 sea change in the public perception of climate change largely attributable to the release of Al Gore's *An Inconvenient Truth* and to Hurricane Katrina's devastation of poor communities in New Orleans and along the Gulf Coast. Before Hurricane Katrina illustrated one possible set of consequences of climate change, the most tangible evidence of warming on U.S. soil was to be found in coastal arctic villages. *Everything's Cool* visits the island town of Shishmaref, Alaska, where the loss of protective sea ice and melting permafrost led to erosion so severe that houses began falling into the sea and the largely Inupiaq citizenry voted to move the entire village—residents, school, and power plant—off the island entirely. Tracking the actual human and ecological costs of global warming in a way the images of stranded polar bears could never manage, the story of Shishmaref directly involves questions of environmental justice.

But it is Hurricane Katrina, which struck in the midst of the filming of *Everything's Cool*, that has most dramatically raised the question of whether environmental justice will become a major part of the GCC discussion. As many observers noted during the aftermath of Hurricane Katrina, so-called natural disasters can have the effect of making visible the long history of subtler forms of environmental, racial, and economic inequality.²⁵ And yet, it is this deeper, structural environmental injustice that some technophilic approaches like those of Nordhaus and Shellenberger miss entirely. This is well illustrated in two scenes from *Everything's Cool*. Tracking various people involved in the building (and prevention) of a climate-crisis con-

sensus, the directors grant airtime to Nordhaus and Shellenberger, who promote their focus-group methodology and corporate-subsidy policies. In the first focus group, a mixed but majority-white working-class group of participants indicates that the outsourcing of jobs is of much greater concern than global warming, of which many of them had no clear understanding. This fits well with Nordhaus and Shellenberger's notion that approaches to climate change should forgo traditional preservationist appeals in favor of pro-growth economic policies. But the directors allow some skepticism about these two policy advocates to creep in. Their evident relish in their notoriety as the "sexy" cosmopolitan "bad boys" of environmentalism (their own words) introduces some doubt about their sincerity and reliability. Most revealing, however, is a long take in which the men attempt to steer a focus group made up of African Americans away from what the public relation specialists regard as "loser" political arguments that involve remedies to the environmental and social causes of Katrina's devastation and toward a rhetoric of "global warming preparedness" rather than prevention. In the scene, the distance between the glib technophilia of their *Break Through* and the complex, historically determined reality of the people on whose behalf environmental decisions are being made could not be more palpable.

Economic and Individual Histories in Global Environmental Justice

The policy analogue of *Break Through*'s lack of social contextualization is the conspicuous absence of the historical determinants of unequal claims on the global atmospheric commons. At the macro scale, Environmentalism 2.0 excludes consideration of *historical climate debt* (HCD) in discussions of GCC. *Climate debt* is "a special case of environmental injustice where industrialized countries have over-exploited their 'environmental space' in the past, having to borrow from developing countries in order to accumulate wealth, and accruing ecological debts as a result of this historic over-consumption."²⁶ Just as petroleum is a fossil fuel, climate change is a fossil problem for the global economy, the legacy of uneven development in the industrial age. Rectifying this inequality requires countries that have in the past emitted at levels in excess of an equal per-capita allocation emit less than their equal per-capita allocation in the future. This also works in reverse: countries that have, in the past, emitted at levels lower than their equal per-capita contribution are entitled to "overemit" until they reach the global historical aver-

age. Countries with a positive HCD are considered debtors, whereas those with a negative HCD are considered creditors.²⁷ Historical carbon debt is a powerful conceptual tool for placing GHG-emission restrictions and costs on those who have benefited the most in terms of development, ensuring that some measure of genuine social justice accompanies the global fight against GCC.

One way to tell the climate story in its historical complexity is through large-scale economic studies and sweeping historical narratives of fossil-fuel use. In the realm of culture, however, a more effective approach can be found in narrative forms that combine individual biography with environmental history in order to provide concrete examples of environmental damage that can become the basis for redress and reform. Though it remains a challenge, a justice-oriented GCC cultural response can be mounted without radically postenvironmental policies like the ones advocated by the Breakthrough Institute or postmodern/posthumanist literary innovations of the sort called for by Heise.

In part contrast, part complement to Burtynsky's focus on Three Gorges in particular and China in general, Yung Chang's acclaimed documentary *Up the Yangtze* stands as a relatively traditional narrative and representational strategy that can more effectively cover the ground of China, globalization, and the environment. The plot summary reads,

A luxury cruise boat motors up the Yangtze—navigating the mythical waterway known in China simply as 'The River.' The Yangtze is about to be transformed by the biggest hydroelectric dam in history. At the river's edge—a young woman says goodbye to her family as the floodwaters rise toward their small homestead. The Three Gorges Dam—contested symbol of the Chinese economic miracle—provides the epic backdrop for *Up the Yangtze*, a dramatic feature documentary on life inside modern China.

The tagline, "The river that erased her past will write her future," encapsulates the ambiguous situation of the main character, sixteen-year-old Yu Shui, the eldest child of illiterate, impoverished subsistence farmers who live along the banks of the Yangtze. Their home is flooded by the Three Gorges Project, and Shui's parents send her to work on the so-called Farewell Cruises that cater to Western tourists eager to see the beauty of the Yangtze before it disappears because of the dam. The director's framing of the film, and his own positionality vis-à-vis the people represented in it, are also notable. In an early voice-over, Yung Chang explains that his grandfather was a Chinese immigrant (in his case, to Canada). Thus, implicit in Chang's positionality and his narrative structure are both identification with the main characters (as someone he could have

been, had his family remained in China) and simultaneous sympathy for critiques of Three Gorges Project, whether on social justice or environmental grounds.²⁸ The existence of a shared history and environment, enables the film to register the past, current, and future entanglements at the heart of GCC, as well as its solution.

Highlighting this connection is the ironic juxtaposition of the Western tourists, primarily although not exclusively white (as filmed), who have traveled thousands of miles to see the beauty of the Three Gorges, and their casually derisive and occasionally clueless behavior toward the people who are serving them. The tragedy of the actual locals whose homesteads are being destroyed abuts scenes in which older white women tourists complain about pressures to tip the Chinese workers, an old white couple dress in “traditional” Chinese garb, and, lastly, an elderly lounge singer entertains the crowd in mangled and pidgin Mandarin. The American mainstream preservationist desire to see the ecological and aesthetic beauty of the region before the flooding is positioned as the inverse of the sublime scene of human cultural destruction that engenders it.²⁹ The film makes impossible a repetition of the blindness of Burtynsky’s work, which in transferring the sublimity of ecological devastation to the aesthetic sublimity of the photographic image is finally unable to lay bare the geopolitical inequalities responsible for both.

Up the Yangtze received overwhelmingly positive reviews and was shown extensively on the film-festival circuit. The critical and audience reception to the film was largely based on the film’s narrative structure and the deep and largely sympathetic focus on the individual main characters, Yu Shui (renamed “Cindy” by her employers), her parents, and another new worker on the boat, a cocky middle-class youth named “Jerry.” The filmmakers spent over a year developing a relationship with the protagonists filmed; for example, capturing incredibly intimate scenes in Cindy’s family hovel. (In one powerful scene, the parents explain why Cindy cannot continue with school and must work to help support the impoverished family, bringing tears to her eyes—and perhaps to the audience’s.) The film also captures the ambiguity of change and modernization—the tagline that the river will “write her future” suggests that Cindy’s only hope for a better life, in sharp contrast to her parents, is in learning how to negotiate the demands of the new China. This learning is evident in scenes where more experienced female workers teach her how to wear makeup and go shopping; in other words, how to consume. The nuance and specificity of the film differentiates it from so many other recent representations of GCC. If Burtynsky’s art is about the

scale—of the numbers of workers, of the pace of transformation, of the detritus left behind—Chang’s view is that it is only through the careful depiction of individual envirocultural transactions like those occurring on the international pleasure boat that the scale and source of the change in China can be understood. This is particularly true of Cindy’s father, seen laboring in *Up the Yangtze*, pulling the contents of his entire house, loaded in a wagon, up a hill, and elsewhere dismantling buildings brick by brick. This work recalls Burtynsky’s images of town deconstruction, but, while Burtynsky regards such men as the anonymous millions left behind, Chang also registers the fact that the father is a morally significant individual with a personal past that intersects with China’s political history. The audience learns his prior history and anticipates his future and that of his daughter. The film presents a story of economic development and loss that repositions the potential threat of China’s growth and its pollution not as the precursor to national rivalry and competition but as a series of trade-offs that elicit our sympathy rather than our terror.

Although *Up the Yangtze* is not explicitly political or about climate change per se, it does engage with global environmental justice in that the Three Gorges Project is a hydroelectric dam project, long associated with nation’s desires to develop and harness the power of the rivers and water. (One of the few archival images in the early part of the film shows Mao Ze Dong swimming in the river and explaining the long history of this project, first proposed by Sun Yat Sen in 1919 and embraced by Mao in the early days of the Communist regime in the 1950s.) Among the most powerful scenes in the film is one in which Cindy’s parents are brought to the dam to speak openly about the grandness and scale of the project and the glory it brings to the nation. Although her parents (and several others in the film) have their lives, communities, and livelihoods destroyed by the dam, they still embrace it as a necessary good for the nation. The ecological tragedy of their loss is thus paired with the reality of their nationalistic pride in economic development, a connection that in the larger context of the film short-circuits the American view of GCC as a national threat. Development and energy are, after all, at the heart of much global development conflict and thus form the basis for transnational EJMs, especially concerning dams in the global South (as in India) or in native communities in the United States.³⁰ Whether the object is a hydroelectric dam (as in the film) or a factory (as in Burtynsky’s work), these projects embody the discursive fantasies around global economic development as good and inevitable, what Maria Kaika has called modernity’s “Promethean project,” whose source and current center remains in the West.³¹

Conclusion: Toward an Environmental Justice Aesthetics

As the GCC phase of environmental discourse develops, it will be crucial to ensure that the original ecological and social goals of traditional environmentalism and environmental justice are not swept aside in favor of a counterproductive emphasis on national, cultural, and racial difference on scales at which no biological and community justice is practicable. We suggest that environmental justice aesthetics ought to reject the sublime scale invoked by some GCC narratives and instead remain focused on the human, ecological, and social justice dimensions of environmental change.³² The proper response of the humanities to the GCC crisis is not to find aesthetic equivalents to late capitalism's radically posthuman environmental effects, but rather to produce narratives, like *Up the Yangtze*, that make palpable the largely ungraspable complexity of contemporary environmental and economic networks. The strengths of institutionally and methodologically separated enterprises like ecocriticism, environmental justice, cultural studies, and globalization theory must be combined to counteract the forces of a potentially reactionary style of climate discourse and to develop a representational model and analytic framework for climate politics that accounts for individuals, communities, and cultural and racial contexts as much as for net emissions, capital flows, and global trade.

Notes

¹ Ted Nordhaus and Michael Shellenberger, "The Death of Environmentalism: Global Warming Politics in a Post-Environmental World" (2004), 6–7. An electronic version of this unpublished paper is available at www.thebreakthrough.org/images/Death_of_Environmentalism.pdf.

² Ursula Heise, "Toxins, Drugs, and Global Systems: Risk and Narrative in the Contemporary Novel," *American Literature* 74, no. 4 (2002): 747–78. Heise's new book, *Sense of Place and Sense of Planet: The Environmental Imagination of the Global* (New York: Oxford University Press, 2008), further develops this line of "risk society" environmentalism.

³ Fredric Jameson is here speaking about the transnational economic system that induces a nationalist reaction, but his argument is as pertinent to the very concrete and high profile international initiatives against GCC ("Notes on Globalization as a Philosophical Issue," in *The Cultures of Globalization*, ed. Fredric Jameson and Masao Miyoshi [Durham, NC: Duke University Press, 1998], 54–77).

⁴ We are not arguing that the distinction between mainstream environmentalism and environmental justice in the U.S. context maps directly onto distinctions of a nascent Chinese environmentalism. The focus of this essay is on different cultural productions about climate change and China in particular, from the United States and Canada, rather than that produced in China itself, which is growing rapidly.

⁵ We borrow this term from a number of scholars working loosely in the field of literature who examine environmental justice from a primarily cultural and representational perspective. One overview of the field suggests,

Environmental justice cultural studies is a branch of an emerging field that might be called “cultural environmental studies,” or “environmental cultural studies.” We give the name environmental justice cultural studies to work that analyzes and supports the movement that demonstrates how environmental problems cannot be solved apart from questions of economic and social justice, especially at the intersections of race, class, gender, sexuality, colonialism and “nature.” More concretely, environmental justice cultural studies seeks to contribute to the less developed cultural side of EJ [environmental justice] analysis, and to support cultural work (both works of analysis, and works of art and popular culture) that are vital to the movement for environmental and social justice. (www.wsu.edu/~amerstu/ce/ce.html)

⁶ One of the authors, Julie Sze, has argued elsewhere that environmental justice is both a political movement seeking particular concrete aims (pollution reduction, fighting siting of noxious facilities, etc.), as well as a cultural movement focused on rewriting the definition of environment and centralizing the role of race and justice in the narrative of contemporary environmentalism. Raising the profile of this second, cultural component of environmental justice has been a key desideratum of philosophers interested in environmental justice problems and movements (Julie Sze, “From Environmental Justice Literature to the Literature of Environmental Justice,” in *The Environmental Justice Reader*, ed. Joni Adamson, Mei Mei Evans, and Rachel Stein [Tucson: University of Arizona Press, 2002], 163–81).

⁷ R. S. W. van de Wal, W. Boot, M. R. van den Broeke, C. J. P. P. Smeets, C. H. Reijmer, J. J. A. Donker, and J. Oerlemans, “Large and Rapid Melt-Induced Velocity Changes in the Ablation Zone of the Greenland Ice Sheet,” *Science* 321 (2008): 111–13. If the pictures provide no evidence for imminent polar bear extinction, neither do they argue the reverse. Population models suggest that warming in the Arctic will initially be good for polar bears, whose access to seals will increase as the ice sheet breaks into shards. When the ice sheet is severely diminished, however, the consequences for the species are deemed likely disastrous. The best scientific data show that the Arctic has warmed 4 degrees centigrade over the past fifty years, and the trend is expected to continue.

⁸ Amy Kaplan, *The Anarchy of Empire in the Making of U.S. Culture* (Cambridge, MA: Harvard University Press, 2005).

⁹ Zachary Coile, “Oil Politics Alleged in Polar Bear Decision,” *San Francisco Chronicle*, 3 April 2008.

¹⁰ Erik Piepenburg, “He Writes What He Knows,” *New York Times*, 2 December 2007.

¹¹ Donovan Hohn, “Through the Open Door: Searching for Deadly Toys in China’s Pearl River Delta,” *Harper’s Magazine*, October 2008, 58.

¹² Angela Miller, *The Empire of the Eye: Landscape Representation and American Cultural Politics, 1825–1875* (Ithaca, NY: Cornell University Press, 1993).

¹³ Ales Pasternack and Clifford A. Pearson, “National Stadium,” *Architectural Record*, July 2008, 92–99.

¹⁴ Susanna Lange, *Bernd and Hilla Becher: Life and Work*, trans. Jeremy Gaines (Cambridge, MA: MIT Press, 2007). On Karl Blossfeldt, see his *Urformen der Kunst* (Berlin: Ernst Wasmuth, 1928); English translation by Gert Mattenklott, *Art Forms in Nature: The Complete Edition* [Munich: Schirmer/Mosel, 2004]). Like the Bechers, Andrew Borowiec concentrates on the unpeopled industrial landscapes, though often at the edges of more natural places. His *Industrial Perspective: Photographs of the Gulf Coast* (Santa Fe, NM: Center For American Places, 2005) documents the energy, fertilizer, and pesticide infrastructure along the coasts of Alabama, Louisiana, and Texas.

¹⁵ David Plowden, *Vanishing Point: Fifty Years of Photography* (New York: Norton, 2007).

¹⁶ Sebastião Salgado, *Workers: An Archaeology of the Industrial Age* (New York: Aperture, 1993), 6.

¹⁷ James Jeffrey Higgins, *Images of the Rust Belt* (Kent, OH: Kent State University Press, 1999), 5–7. Robert Glenn Ketchum, a photographer of the Eliot Porter school of the picturesque, introduces the volume.

¹⁸ Perhaps the clearest analogues of Burtynsky's China project in the U.S. industrial age are the photos by Andreas Feininger, *Industrial America: 1940–1960* (New York: Dover, 1981), and Jet Lowe, *Industrial Eye* (Washington, DC: Preservation, 1986).

¹⁹ For example, see “Tanggu Port, Tianjin, 2005,” www.edwardburtynsky.com/WORKS/China/China/CHNA_STE_TAN_10_05.html.

²⁰ *Manufactured Landscapes*, directed by Jennifer Baichwal (Toronto: Foundry Films, 2006).

²¹ Nadia Bozak's PhD dissertation, “The Disposable Camera: Image, Energy, Environment” (University of Toronto, 28 July 2008), is the most thorough and enlightening source on this turn in Burtynsky's career:

Citing everything from film stock's use of mined silver in its nitrate compound to the fuel his vehicles burned as he pursued his desiccated subjects, every aspect of Burtynsky's photographic enterprise could be mapped back to the same deleterious processes he was determined to bring to society's attention. It was thus that Burtynsky turned to documenting the oil and energy industries specifically; now, however, he was equipped with an awareness of their insidiously entrenched presence both within everyday life and also in the photographic image. (154)

²² For an overview of the issues and of the field of environmental justice research, see Sze and London, “Environmental Justice at the Crossroads,” *Sociology Compass* 2, no. 4 (2008): 1331–54, <http://dx.doi.org/10.1111/j.17519020.2008.00131.x>.

²³ “Bali Principles of Climate Justice,” 29 August 2002, www.ejnet.org/ej/bali.pdf.

²⁴ Ted Nordhaus and Michael Shellenberger, *Break Through: From the Death of Environmentalism to the Politics of Possibility* (New York: Houghton Mifflin, 2007).

²⁵ Manual Pastor, Robert Bullard, James Boyce, James Fothergill, Alice Morello-Frosch, and Beverly Wright, *In the Wake of the Storm: Environment, Disaster, and Race after Katrina* (New York: Russell Sage Foundation, 2006). A number of environmen-

tal historians make this point, both those who write on New Orleans specifically (principally Ari Kelman, *A River and Its City: The Nature of Landscape in New Orleans* [University of California Press, 2006]; and Craig Colten, *An Unnatural Metropolis: Wrestling New Orleans from Nature* [Baton Rouge: LSU Press, 2005]) and those who write on U.S. environmental history more broadly (for example, Ted Steinberg, *Acts of God: The Unnatural History of Natural Disaster* [New York: Oxford University Press, 2000]).

²⁶ Friends of the Earth International, "Climate Debt: Making Historical Responsibility Part of the Solution," December 2005, www.foei.org/en/publications/pdfs/climatedebt.pdf.

²⁷ Nordhaus and Shellenberger, *Break Through*, 8.

²⁸ As Hwang suggests, Asian-American perspectives may offer this simultaneous identification and critique. In this regard, Yung Chang's position as a Chinese-Canadian "going back" to China parallels work by a number of Chinese-American and Chinese-Canadian scholars and journalists who have published in the last two years, including Amy Chua's *Day of Empire: How Hyperpowers Rise to Global Dominance—and Why They Fall* (2007), Leslie Chang's *Factory Girls: From Village to City in a Changing China* (2008), and Philip Pan's *Out of Mao's Shadow: The Struggle for the Soul of a New China* (2008).

²⁹ Mark David Spence, *Dispossessing the Wilderness: Indian Removal and the Making of the National Parks* (New York: Oxford University Press, 1999).

³⁰ Julie Sze, "Boundaries of Violence: Water, Gender, and Globalization at the U.S. Borders," *International Feminist Journal of Politics* 9, no. 4 (2007): 475–84.

³¹ Maria Kaika, *City of Flows: Modernity, Nature, and the City* (New York: Routledge, 2005).

³² David Schlosberg has made a complementary appeal within environmental social science ("Reconceiving Environmental Justice: Global Movements and Political Theories," *Environmental Politics* 13, no. 3 [2004]: 517–40).