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Interventionist Conservation

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"The cult of pristine wilderness is a cultural construction, and a relatively new one," writes reporter Emma Marris in her new book-length essay, *Rambunctious Garden.* Contrary to environmentalists who seek to restore or conserve "pristine" enclaves of nature from human encroachment, Marris argues that nature is everywhere, from the barren Arctic to the birds in a suburban backyard. Nowhere is nature static and unaltered by human beings; ecosystems are plastic, constantly changing and adapting to new conditions, and to the activities of different plants and animals. This constant flux in the earth's rambunctious ecosystems ought to give us pause when considering the impact that *Homo sapiens*, the gardening animal, has had on the environment, both before and after the advent of modern technology and industry.

Rambunctious Garden: Saving Nature in a Post-Wild World
By Emma Marris
Bloomsbury ~ 2011 ~ 210 pp.
$25 (cloth)

The God Species: Saving the Planet in the Age of Humans
By Mark Lynas
National Geographic ~ 2011 ~ 280 pp.
$25 (cloth)

If man is nature's gardener in Marris's work, for climate-change activist Mark Lynas we are even more: his book's eponymous God species. Lynas is concerned with solving the large-scale man-made ecological problems that he believes pose a serious threat to the planet's future. But his argument is unorthodox. "Until now, environmentalism has been mostly about reducing our interference with nature," he writes. "My thesis is the reverse: playing God (in the sense of being intelligent designers) at a planetary level is essential if creation is not to be irreparably damaged or even destroyed by humans unwittingly deploying our newfound powers in disastrous ways. At this late stage, false humility is a more urgent danger than hubris."

Marris and Lynas are both voices in a growing chorus of environmentalists who acknowledge an important and active role for human beings, and seek to solve environmental problems not simply by restraining human activity but rather by harnessing human innovation and creativity. By dispelling the myth of the "pristine

wilderness" and recognizing the role that man has played in shaping the natural world for millennia, Marris forces the environmental movement to articulate more sensible aims than recreating a simulacrum of ecosystems that purportedly existed prior to the advent of industrial civilization. Lynas, for his part, argues for "technofixes" to save the planet. He takes a dim view of the hard-line belief that solving major environmental problems will require "a worldwide change in values, a program of mass education to reduce people's desires to consume…'smashing the power' of transnational corporations, or even the abolition of capitalism itself." The welcome efforts of these two authors to correct the errors and prejudices of environmentalism are signs of a slowly maturing environmental movement that seeks practical solutions for the future, not grand ideological transformations to restore some mythic past.

Marris locates the genesis of the pristine-nature cult in America with nineteenth-century transcendentalists like Thoreau and Emerson and with later naturalists like John Muir and Aldo Leopold. For these writers, European industrial civilization had despoiled the natural beauty of America, which had before then existed in harmony with the indigenous peoples. The central problem of this view is that it is false. It fails to acknowledge the impact of pre-industrial human beings on their environments throughout history. The idea that indigenous peoples lived in a timeless balance with their environment is based on a simplistic and inaccurate ideal vision of a golden age before the arrival of modernity and industry. For example, while Native Americans did not reach the technological development of industrial Europe, they did form impressive civilizations that exercised a remarkable scale of control over the land. Marris observes that the mound-building peoples who lived near modern-day St. Louis lived in "a London-sized city that flourished from about A.D. 950 to 1250." Archaeologists have found evidence that the population of the Americas at the landing of Columbus was at least comparable to that of Europe. But centuries later, when the interior of the continent was explored by Europeans, perhaps 95 percent of these people had perished from diseases that had been brought from Europe and outpaced exploration. Such large populations cannot but indelibly shape the nature that surrounds them.

The people we now consider indigenous to North America are themselves relatively new arrivals, coming to the continent some thirteen to fifteen thousand years ago. There is growing evidence that this arrival brought with it "prehistoric anthropogenic change," including the extinction of some of America's

largest animals. Marris catalogues a list of the megafauna that could be found at the first moment of mankind's arrival: "wild horses, mammoths, mastodons, sixteen groups of ground sloths, the glyptodon (something like a four-thousand-pound angry tortoise with a spiked mace for a tail), short-faced bears that would make polar bears look puny, camels, saber-toothed tigers, lions, and cheetahs." And, Marris says, indigenous peoples around the world brought not only extinctions, but also exotic new species to the environments they settled in millennia past. By the time Captain Cook landed in Hawaii in 1778, he found a place that was, in Marris's words, "very much shaped by the Polynesians who had been living there for at least one thousand years: a semi-domesticated landscape filled with species the Polynesians brought with them, including taro, sugar cane, pigs, chickens, and rats, and missing others, including at least fifty species of birds, who were hunted out by the first arrivals." Even so, the islands still manage to be home today to many species found nowhere else.

These examples of the history of human impact on the natural environment prior to the age of European exploration and the modern industrial era are important because they show that early European and later American explorers, with whom written history of the Americas originates, set down as *nature* in its unadulterated and timeless form whatever they first glimpsed upon their arrival, while ignoring the influence Native Americans had had. This view of nature shaped the environmental policies of the 1960s. In his influential 1963 report for the U.S. National Park Service, "Wildlife Management in the National Parks," A. Starker Leopold—the son of naturalist Aldo Leopold—recommended that "each park be maintained, or where necessary recreated, as nearly as possible in the condition that prevailed when the area was first visited by the white man." When the Wilderness Act of 1964 was passed, Leopold's vision of wilderness as a pristine environment was insinuated into the law: "A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain." There are now 757 so-called "wildernesses" in the United States, covering a combined area about three times the size of the state of New York. But the theory of wilderness that gave rise to these lands' designation does not recognize the role of Native Americans who had lived on and shaped the "untrammeled" areas that the Wilderness Act aimed to preserve.

This notion of preserving nature at a "holy baseline," as Marris calls it, is not simply historically and scientifically problematic; it can also lead

to poor environmental policy decisions. An example Marris gives is the U.S. war on *Phragmites*, a supposedly invasive reed brought to America from Europe in the eighteenth or nineteenth century that has come to dominate certain marshlands along the eastern seaboard. According to recent studies, Marris points out, the *Phragmites* reed was a common species in America until a few tens of thousands of years ago, when ground sloths ate the reed to local extinction. So when the very similar European lineage of the reed was inadvertently reintroduced to the Americas not so long in biological terms after its demise, it should have been unsurprising—one might even say *natural*—that the reed found and filled its earlier niche. "Learning to love exotic species"—species that have been recently introduced to an ecosystem—should be a goal of modern conservationists, Marris argues. If a creature is going extinct locally, due to predation, climate change, or habitat loss, moving the species to somewhere it can thrive should be considered part of the "rambunctious gardening" necessary to achieve the goal of preserving biodiversity in a changing world, not a problematic "invasion" of one species into an otherwise pristine wilderness.

The work of Mark Lynas, an activist who once assaulted the "skeptical environmentalist" Bjørn Lomborg with a cream pie, is somewhat less concerned with flora and fauna, and less convinced of the proposition that nature in its state of perpetual change is resilient to human activities. He is also tackling a bigger problem: not just the preservation of nature here and there, but "saving the planet" from a myriad of global ecological problems. Unlike Marris, who highlights the ways human beings have shaped nature for millennia, Lynas argues that modern man has a special mission of stewardship because, unlike other species and unlike our prehistoric ancestors, who relied on the combustion of woody materials found above ground, modern humans have unlocked the energy reserves that otherwise would have remained *in situ*: coal, oil, natural gas, and other fossil fuels. Burning these sources of carbon at the expected rate will result in "planetary-scale destruction and perhaps a mortal threat to civilization."

This is rather shrill, to say the least. Climate change will pose challenges for civilization in the decades ahead, but it is "a manageable risk, not an existential crisis," as Jim Manzi explained in these pages (see "Conservatives, Climate Change, and the Carbon Tax," Summer 2008). Marris, for her part, recognizes that climate change will, depending on its magnitude, reorder life on the planet, but does not speak of it as a catastrophic disaster. Indeed, in recognizing the impermanence and instability of ecosystems, she tends

toward an almost postmodern environmentalism that lacks a clearly defined mission, looking instead to a "menu of new goals," no single one of which will be valid in all situations.

Lynas's thesis, on the other hand, is that the "Earth system has inherent ecological limits within it" that cannot be crossed without plunging the planet into ecological cataclysm. These "planetary boundaries" number nine in all, from biodiversity loss to climate change to the nitrogen cycle (these already crossed), to yet-to-be-exceeded limits on freshwater use, ocean acidification, and ozone depletion. Despite his sometimes alarmist rhetoric, Lynas deserves credit for seeking solutions to the environmental problems he is concerned with—solutions that embrace rather than restrict human ingenuity and economic activity. He admirably comes out against population control as a method for accomplishing environmental goals like curbing greenhouse gas emissions. And unlike many other environmentalists, he does not recommend restricting global energy consumption in a world where billions are still deprived of electricity, fuels for heating, and many of the other amenities that people in the developed world take for granted. Instead of simply haranguing energy users into cutting back their consumption, Lynas writes that the key to fighting climate change is providing realistic alternative sources of energy. And, in a reversal of his previous stance, Lynas embraces nuclear power as an alternative to greenhouse-gas-emitting fossil fuels.

By advocating "technofixes" for environmental problems, Lynas gores another sacred cow by championing the genetic engineering of crops, reversing another position on which he was previously in line with environmental orthodoxy. If crops could be genetically modified to fix nitrogen directly from the atmosphere, rather than requiring farmers to spread nitrogen fertilizers across their fields, there would be less of another greenhouse gas in the atmosphere and less risk of algae blooms and dead zones in waterways and oceans. Here, too, Lynas adopts a view contrary to the fashionable assumption that large-scale agriculture, genetic modification, and fertilizer and pesticides generally are a problem to be overcome. He writes, "The key reason why free-choice organic agriculture…will always be a marginal activity globally is because it uses much more land to feed the same number of people." While nitrogen-based fertilizers have upset the nitrogen balance (one of the "planetary boundaries" Lynas is concerned with), without these fertilizers or some other technological solution for providing food crops with nitrogen, the Malthusian limitations on human population would indeed be a reality. And Lynas, unlike all too many radical antihumanist environmentalists over the past two centuries, does not see this as a good thing.

But despite the pragmatic solutions that Lynas offers, keeping the earth within the "planetary boundaries" he describes may be more difficult than he imagines. As he observes, cutting carbon dioxide global emissions in half by 2050 "would require the construction of 12,000 nuclear power stations—with one plant coming online every single day between now and then." This is simply not going to happen. If Lynas is correct, we are on a collision course. International agreements on climate change have been feckless and disappointing, Lynas observes. It is impractical to think that the leaders of dozens of countries can be convinced to accept limitations today in order to prevent a costly disaster in the long term. And although he concedes that unforeseen technological advances—nuclear fission, nitrogen-fixing fertilizers, genetic engineering of crops—have overturned some commonly held assumptions about environmental doom and gloom, he misses one logical conclusion of his thinking: that as climate disaster comes closer, a "technofix" may arise that, say, removes carbon-dioxide from the atmosphere. Merely assuming that man created the problem, that he is a "God species" capable of impressive things, should not lead us to infer that the best solution is the costly one we can implement today; the best solution may be the one that comes when necessity gets around to mothering invention.

Marris's and Lynas's works are emblematic of a recent turn toward realism in the environmental movement, or at least in some quarters of it. Consider that both authors call for privatizing or monetizing at least some resources that are often regarded as public or outside the market: Lynas calls for water and carbon markets, and Marris makes the case for "ecosystem services." Their endorsement of private markets is a notable shift, and has been employed only sparingly in what have ended up being some of humanity's largest environmental success stories, such as the sulfur-oxides trading scheme that led to an enormous reduction in acid rain in the United States. The environmental movement, in some quarters, is recognizing that righteous indignation toward all industry is no solution at all. In the past decade especially, environmental groups that once would not have dreamed of sullying themselves by allying with a for-profit enterprise have begun to cooperate with industry. Environmentalists need to "become comfortable with…big corporations," Lynas writes. And no less than the Nature Conservancy's chief scientist, Peter Kareiva, chides fellow environmentalists for "scolding capitalism" and refusing to partner with corporations. As he remarked in a recent article for *Breakthrough Journal*, "By pitting people against nature, conservationists actually create an atmosphere in which people see nature as the enemy."

Marris points to Costa Rica as an example of putting a dollar sign on conservation. Costa Rican farmers are paid generously to prevent deforestation, and the country sells itself as an ecotourists' paradise. Although neither Marris nor Lynas is willing to go as far as the libertarian and conservative free-market environmentalists would like, they do sound rather like those Western Republicans who have long championed the view of land use that agriculture is not the enemy of conservation but its natural ally. As Rep. Denny Rehberg (R.-Mont., now running for a Senate seat) said on the floor of the House of Representatives: "I understand that when you have undergrazed grass, it kills grass as much as overgrazed grass. I notice that when you have timber, when you have underthinned timber, it creates the same devastation as clearcutting." Foresters and ranchers have an incentive to avoid the extremes of underuse and overuse, but the protection of land and of the plants and animals that live on it has no value to man as a practical matter until prices are attached to them. It has taken the environmental movement, with its naïve belief that all of nature is priceless, a long time to acknowledge the need to make the difficult decisions necessary about which species, wildernesses, and parts of nature to dedicate scarce resources toward saving.

Still, despite the welcome turn toward realism represented by Marris's and Lynas's books, the feeling that there is something to "save" still pervades the environmental movement, as evidenced by the verb's appearance in the titles of each work. As Marris makes clear, certain things cannot be saved; our view of nature must include acceptance of it as ever-changing. Climate changes and extinctions happen, and we do our best to identify why, to us, nature is and ought to be important, paying commensurately for its conservation and structured reordering. Lynas's prophecy of an impending catastrophe and concomitant plea to "save the planet," meanwhile, sounds like a generous helping of fatalism, tempered by a sense of the possible. Lynas undoubtedly is on to something in his calls for environmentalists to use (rather than repudiate) the system. But if things are as dire as he says, it seems clear that our economics, our politics, and our science and technology are not up to the task of the grand "saving" the crisis would require.

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