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After Preservation?

DYNAMIC NATURE IN THE ANTHROPOCENE

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We have entered the first century in 45 million centuries of life on Earth in which one species can jeopardize the planet's future. Since Galileo, Earth seemed a minor planet, lost in the stars. Since Darwin, humans have come late and last on this lonely planet. Today, on our home planet at least, we are putting these once de-centered humans back at the center. This is the Anthropocene epoch, and this high profile discourse comes to showcase the expanding human empire. Humans will manage the planet. We need to figure, perhaps re-figure conservation in this novel future in which we celebrate a new epoch and name it after ourselves.

Preserving and/versus Conserving

There is a widespread distinction, somewhat unfortunate, between nature "preservation" and "conservation." We inherit this from John Muir and Gifford Pinchot. Pinchot, the first head of the US Forest Service, argued his "fight for conservation": "The first duty of the human race is to control the earth it lives upon — Out of this attack on what nature has given us we have won a kind of prosperity and a kind of civilization and a kind of man that are new in the world." The manifest destiny of Americans is to tame the continent.

Muir thought this arrogant, and founded the Sierra Club, pas-

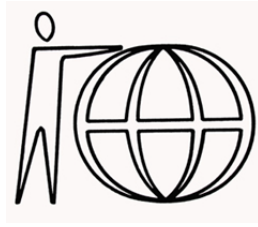


Figure 5. Anthropocene Earth: control and/or caring?
Source: *Landscape* magazine.

sionately opposing damming (damning!) the Tuolumne River in California. "Dam Hetch Hetchy! As well dam for water-tanks the people's cathedrals and churches, for no holier temple has ever been consecrated by the hearts of man." Woodrow Wilson authorized the dam in December 1913. Muir lost his last battle. He died soon after, with — if not of — a broken heart. But we do have his beloved Yosemite preserved. California now celebrates John Muir Day on April 21, the first such person honored with a commemorative day. The state placed him on the California quarter.

With natural processes, "protect" is perhaps a better word. Then the question is, Do we want to go "beyond protection" in this new Anthropocene epoch? But that too comes with a further question: What is it that we are trying to protect—or preserve, or conserve — or "save" (to use another word in the subtitle of this collection)? In more recent vocabulary, what on Earth are we trying to "sustain"? Sometimes "rescue" is the best word.

Protecting Products versus Process

Wildland preservation is not museum work. The Starker Leopold report to the national parks in 1963 spoke, regrettably, of creating "a reasonable illusion of primitive America." This may be appropriate for the pioneer homesteads in Cades Cove in Great Smoky Mountains National Park. What wilderness advocates seek to protect today, however, is dynamic and ongoing

wild processes. One can say, if one wishes, that these are primeval processes. Many natural processes today do not differ much from those of 1492, over half a millennium later.

Baird Callicott, arguing that the wilderness idea should be "revisited," complains that wilderness advocates are "trying to preserve in perpetuity — trying to 'freeze-frame' — the ecological status quo ante" and that this "is as unnatural as it is impossible." He is fighting a straw man. A more sophisticated concept of wilderness preservation aims rather to perpetuate the integrity of evolutionary and ecological processes. Wilderness advocates have never tried to deep-freeze the past; they know processes in constant flux better than most. The day changes from dawn to dusk, seasons pass, plants grow, animals are born, grow up, age, and die. Rivers flow, winds blow, even rocks erode; change is pervasive. Indeed, in wilderness one is most likely to experience geological time. Try a raft trip through the Grand Canyon.

Aldo Leopold, famously, said: "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community." He did use the word "preserve," and he evidently refers to processes on the scale of landscape planning where there is relative "stability." Over centuries and millennia, this passes into evolutionary development, of which Leopold was well aware. In the same "Land Ethic" essay, he continues: "Evolution has added layer after layer, link after link." "The trend of evolution is to elaborate and diversify the biota." Such integrity, stability, and beauty is no deep-freeze static balance.

Anthropocene versus Biosphere Conservation

If "Anthropocene" means that humans are dominant on most landscapes around Earth, that has been quite true for centuries. But to recent advocates, the term means more than that: Celebrating what he calls the "Planet of No Return: Human Resilience on an Artificial Earth," Erle Ellis concludes, "Most of all, we must not see the Anthropocene as a crisis, but as the beginning

of a new geological epoch ripe with human-directed opportunity." He joins colleagues in the *New York Times*: "The new name is well deserved . . . The Anthropocene does not represent the failure of environmentalism. It is the stage on which a new, more positive and forward-looking environmentalism can be built." The way forward is to embrace an ever-increasing human domination of the landscape, perpetual enlargement of the bounds of human managerial control. Humans are in the driver's seat. The American Geosciences Institute celebrates "humanity's defining moment." Richard Alley provides us with *Earth: The Operator's Manual*. According to Mark Lynas and the *National Geographic*, we are "the God species." "Nature no longer runs the Earth. We do."

The Anthropocene epoch has become a Promethean term, a civilization-challenging idea, an "elevator word," to use Ian Hacking's phrase. Allen Thompson, an environmental philosopher, with a "Radical Hope for Living Well in a Warmer World" (his title), urges us to find a significantly "diminished place for valuing naturalness," replacing it with a new kind of "environmental goodness... distinct from nature's autonomy." With "earth systems engineering," Brad Allenby tells us: "The biosphere itself, at levels from the genetic to the landscape, is increasingly a human product." Richard Hobbs and colleagues invite us to envision *Novel Ecosystems: Intervening in the New Ecological World Order* (their title). The *Economist*, in a theme issue, bids us "Welcome to the Anthropocene: A Man-Made World." They foresee "10 billion reasonably rich people" on geo-engineered, genetically synthetic Earth, rebuilt with humans in center focus.

One way of phrasing this question is whether in this artifacted world we wish the Anthropocene to replace the biosphere. Asking about a "safe operating space for humanity," in a feature article in *Nature* in 2009, Johan Rockström argues, using scientific data, that there are nine planetary systems on which humans depend. These can be seen by analysis of chemical pollution; *climate change*; ocean acidification; stratospheric ozone deple-

tion; *biogeochemical nitrogen-phosphorus cycles*; global freshwater use; changing land use; *biodiversity loss*; and atmospheric aerosol loading. Since the Industrial Revolution, in the three systems italicized above the boundaries have already been exceeded. Do we want to preserve/conservate all nine of these systems or to re-engineer them to suit humans better? For at least 10,000 years (what geologists call Holocene times) these systems have remained stable. Surely the wisest course is to keep these major life support systems of Earth in place as they are.

Humans coinhabit Earth with five to ten million other species, and we and they depend on surrounding biotic communities. There are multiple dimensions of naturalness, on both public and private lands. George Peterken, British ecologist, has an eight-point scale. Even on long-settled landscapes there can be natural woodlands, treasured by owners over centuries. There may be native woodlands, often with quite old trees; secondary woodlands with trees 50 to 100 years old; recently restored woodlands; wetlands; moors; hedgerows; and mountains, such as the Alps or the Scottish Cairngorms. Gregory Aplet, a US forest ecologist, distinguishes 12 landscape zones, placed on axes of human "controlled" to autonomously "self-willed" and "pristine" to "novel." Rather than seeking to go "beyond preservation," why not claim that there are and ought to be various degrees of the preservation/conservation/Anthropocene spectrum?

Zoning the landscape, how much human management do we apply where? Which are working landscapes, dedicated to multiple use? This "right-sizing" policy question seems to demand a more specific answer than we actually need to give, if we are concerned (as is this book) with *Saving American Nature in the Age of Humans*. The answer is, Wilderness is the most endangered landscape, the least-sized, the one in shortest supply. Save all you can.

Overall, about 5 percent of the United States is protected — an area about the size of California. But because Alaska con-

tains just over half of America's wilderness, only about 2.7 percent of the contiguous United States is protected — about the area of Minnesota. That too is impressive. But that also means that a little over 97 percent is worked, farmed, grazed, timbered, hunted, dwelt upon, or otherwise human possessed. Surely that is enough, if we have any concern at all for preserving, or conserving, or protecting, or saving—you choose the word—fragments of the plentitude of biodiversity once native to our continent. Surely, if we are to manage more effectively, that ought to be done on the oversized 97 percent we already have taken into our orbit.

Globally, although a diminishing part of the landscape, there are still large areas that are dominantly wild. Yes, human-dominated ecosystems cover more of Earth's land surface than do wild ecosystems. Human agriculture, construction, and mining move more earth than do the natural processes of rock uplift and erosion. But on Earth still today, in an inventory of wilderness remaining, J. Michael McCloskey and Heather Spalding find that all of the settled continents (excluding Europe) are between one-third and one-fourth wilderness. We should have intelligent discussions about how much should remain wild. Confronting such choices, however, let no one say that we have already moved "beyond preservation."

Good for Us/Good of Their Own

Do we save nature because it is good for us, or because the fauna and flora have a good of its own? That vital question has a short answer: Both. The longer answer takes more sophisticated analysis. Becoming educated is becoming civilized. Socrates claimed famously: "The unexamined life is not worth living." He urged: "Know thyself." The classic search in philosophy has been to figure out what is best for us. Environmental philosophers, like myself, claim to be wiser than Socrates: "Life in an unexamined world is not worth living either."



Figure 6. Earth in our hands: caring and/or control? Source: US Postal Service.

Humans are the only species capable of enjoying and advancing the promise of civilization; humans are also the only species capable of enjoying and saving the splendid panorama of life that vitalizes this planet. The totally urban (urbane) life is one-dimensional. To be a three-dimensional person, one needs experience of the urban, and the rural, and the wild. In that sense, the more humans enter the high-tech, artifactual Anthropocene, the more they will be underprivileged. Pushing the 97 percent we inhabit into ever diminishing naturalness is not good for us.

The Anthropocene might prove a dangerous idea, because it impoverishes us. Peter Kareiva and Michelle Marvier, arguing "Conservation for the People" in the *Scientific American*, dismiss the old reason that "we have an ethical obligation to save the world's biodiversity for its own sake." That should be "largely scrapped in favor of an approach that emphasizes saving ecosystems that have value to people." "Human health and well-being should be central to conservation efforts."

But with this focus, we wear a set of blinders; we become blind to nonhuman others. We value our human eyes. Deep sea fish, squid, mantis shrimp, living where light is dim or absent, have evolved spectacular (using the word advisedly) "visual systems

that are very different and much more sophisticated than our own" collecting, producing, processing light. "There's a whole language of light down there, and we are barely beginning to understand it," report marine scientists in a news focus in *Science* (March 9, 2012). And so? Out of (our) sight, out of mind? Save them only if they might provide resources for some useful optics or telecommunications research? Or value them for the good of their own supersight, light-fantastic lives.

Every organism has a good-of-its-kind; it defends its own kind as a good kind. Conservation biology did not start with us humans late and lonely; conservation biology has been going on since the origins of life. Such ancient, perennial, and ongoing conservation seems to recognize value in nature as pretty much fact of the matter. Only arrogant humans, ignorant of biology, will claim otherwise.

But this is not simply bad biology. Now it further seems morally offensive for *Homo sapiens*, the sole reflective, moral species, to use its conscience to act only in its collective self-interest toward the rest. Aldo Leopold concluded: "The last word in ignorance is the man who says of an animal or plant, 'What good is it?' If the land mechanism is good as a whole, then every part is good, whether we understand it or not. If the biota, in the course of aeons has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering. " Keep it for your tinkering? Or keep it because each of the webworked parts is good in itself and good in the whole? Leopold mixed the two, and so should we.

Maybe some readers will concede: yes, they have a good of their own. But there are bad kinds: rattlesnakes, skunks, malaria germs. Now, however, the burden of proof is on you to say why they are bad kinds, and not just because we don't like them. What we must push for, according to the Royal Society of London, is "sustainable intensification" of reaping the benefits of exploiting Earth. Would not the world's oldest scientific society be

as well advised to ask about protecting (*preserving*) ancient and ongoing biodiversity, about whether treading softly is wiser than ever intensifying our imperial exploitation.

If we are to fix the problem in the right place, we must learn to manage ourselves as much as the planet. Be a good citizen, and more. Be a resident on your landscape. True, we must become civilized. True, the future holds advancing technology, but equally: we don't want to live a de-natured life, on a de-natured planet.

Once and Future Nature in the Anthropocene Epoch

We set ourselves toward *Saving American Nature in the Age of Humans*. That seems to be thinking big, on continental and global scales—wise enough in view of present crises. But maybe we need to think further and see a once and future nature. Nature is forever lingering around, even in the Anthropocene. Given a chance, which will come sooner or later, natural forces will flush out human effects. The Holocene covers 12,000 years; there is no prospect of ever-smarter Americans reinventing their continent, or postmodern humans reengineering their Earth for 12 millennia.

A better hope is for a *tapestry* of cultural and natural values, not a *trajectory* even further into the Anthropocene. Preserve/ conserve/protect/save/keep nature in symbiosis with humans on this wonderland planet!

Rolston, After Preservation?
Dynamic Nature in the Anthropocene

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