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NATURE AND CULTURE IN ENVIRONMENTAL ETHICS

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The pivotal claim in environmental ethics is that humans in their cultures are out of sustainable relationships to the natural environments comprising the landscapes on which these cultures are superimposed. But bringing such culture into more intelligent relationships with the natural world requires not so much "naturalizing culture" as discriminating recognition of the radical differences between nature and culture, on the basis of which a dialectical ethic of complementarity may be possible. How far nature can and ought be managed and be transformed into humanized nature, resulting in "the end of nature," is a provocative question. Environmental ethics ought also to seek nature as an end in itself.

I. NATURE INCLUDING CULTURE

In one sense, "nature" is quite a grand word, referring to everything generated or produced. *Natura* or *physis* is the source from which all springs forth. So comprehensive a term becomes troublesome. Is there a contrast class? If one is a metaphysical naturalist, then nature is all that there is. Used in this universal sense, claiming that "everything is natural" is about as informative as insisting that "everything that is, exists." Metaphysical naturalists may need the word in this sense for their cosmological purposes. Humans and all their activities will be included; humans are generated within nature and they break no natural laws. Everything technological will, on this meaning, be completely natural. So will everything industrial, or political, or economic, philosophical, or religious.

Such scope is also problematic, however, because it prevents discriminating analysis of the differences between spontaneous nature and deliberated culture. A predicate, "natural," that includes all actual and possible properties, excludes nothing; denoting everything is about like denoting nothing, at least nothing in particular. The most forceful objection to this sense of nature, in the context of doing environmental ethics, is that such definition allows no useful contrast with culture, but we need that contrast carefully analyzed if humans are going to relate their cultures, including their technologies, to nature, asking about sustainable development or about nature conservation as goals.

II. CULTURE DISTINGUISHED FROM NATURE

A straightforward contrast class is culture. If I am hiking across wildlands, the rocks and trees, the birds and even their nests, are natural, but if I come upon an abandoned boot, or a candy wrapper, these are artifacts, unnatural. Expanding such examples into a metaphor, the whole of civilization is producing artifacts in contrast to the products of wild spontaneous nature.

Wild animals do not form cumulative transmissible cultures. Information in nature travels intergenerationally on genes; information in culture travels neurally as persons are educated into transmissible cultures. The determinants of animal and plant behavior are never anthropological, political, economic, technological, scientific, philosophical, ethical, or religious.

Animals imprint on and learn the behaviors of their parents, and in this sense acquired information sometimes travels from one generation to the next. One sometimes encounters the term "culture" used of animals. Opening an anthology on *Chimpanzee Cultures*, the authors doubt, interestingly, whether there is any such thing: "Cultural transmission among chimpanzees is, at best, inefficient, and possibly absent."¹ Chimpanzees clearly influence each other's behavior, and intend to do that; they copy the behavior of others, including their tool-using. But there is no clear evidence that they attempt to change the mind, as opposed to the behavior, of another chimpanzee. They seem "restricted to private conceptual worlds."² Without some concept of teaching, of ideas moving from mind to mind, from parent to child, from teacher to pupil, a cumulative transmissible culture is impossible.

The critical factor is the deliberated modification of nature that separates humans in their cultures from wild nature. Any transmissible culture, and especially a high technology culture, does need to be discriminated from nature. The Boeing 777 jet plane is being built in

the largest building in the world, assembling three million parts per plane. At the Everett, Washington, site, Boeing used in its design 2,200 workstations linked to eight of IBM's largest mainframes, linked with other computers and databases spread across 17 time zones, bringing the total to 7,000 workstations. The information processed was stored on 3.5 terabytes.³ Were it stored on ordinary 3.5 inch disks, this would require a stack of two and a half million disks nearly five miles high. In addition, on the economic side, Boeing kept an eye on competing with the A-330 Airbus, subsidized by British, French, German, and Spanish companies, with Boeing more on its own raising capital and encouraged by United's initial \$22 billion order.

Boeings fly, as wild geese fly, using the laws of aerodynamics. The flight of wild geese is impressive; scientists can hardly yet be said to understand these "bird brains" and how they migrate. The information storage system in the goose genetics could, in its own way, be the equal of the Boeing system. Some of the information in the geese is transmitted nongenetically, as when they learn migration routes by following other geese. But it is only philosophical confusion to remark that both processes are equally natural, and let it go at that. No interesting philosophical analysis is being done until there is insightful distinction into the differences between the ways humans fly in their engineered, financed jets and the ways geese fly with their genetically constructed, metabolically powered wings.

The Boeings are being built within a hundred miles of old-growth forest that American environmentalists are concerned about saving. One could argue that saving the forests is more important than building the new Boeings. But one is unlikely to be guided in the rationale for conserving the forest until one recognizes that the processes that govern the forest are radically different from the processes by which the Boeing 777 is produced.

Environmental philosophers, concerned for sustainable relationships with nature, often insist that culture too is natural, that humans are a part of and not apart from nature. Let me cite three:

J. Baird Callicott desires a new concept of nature that includes culture. "Nature as Other is over The modern picture of nature is false and its historical tenure has been pernicious. A new dynamic and systemic postmodern concept of nature, which includes rather than excludes human beings, is presently taking shape." Callicott hopes to cure us from the "sharp dichotomy between man and nature," which has too long been a feature alike of religion and philosophy, "both wellsprings of the Western intellectual heritage We are therefore a part of nature, not set apart from it."⁴

Val Plumwood, analyzing the wilderness idea, worries about my "dualism" and complains that I "cannot recognize the continuum of nature and culture," since my dualism "blocks recognition of the embeddedness of culture in nature. . . . This nature/culture dualism distorts the way we can think about land, obliging us to view it as either pure nature or as a cultural product, not nature at all Recovering the lost ground of continuity that dualistic conception has hidden from us allows . . . recognizing nature in what has been seen as pure culture and culture in what has been seen as pure nature."

Plumwood goes on to say, however, that she wants to eliminate not "the distinction" but "the dualism." We ought to recognize "the presence of the Other," reaching "a non-oppositional account of the relationship between humans and the wild Other." Further, it is not true that "everything that humans do is natural"; it is critical not "to obscure the basis for understanding the difference between anthropogenic from non-anthropogenic elements in country."⁵ At this point I begin to wonder if my mind is subtle enough to catch the distinction between making a distinction between humans and "the wilderness Other," and distinguishing significant differences between nature and culture, an otherness that indeed sets them apart.

Freya Mathews puts it this way: "It is no longer controversial to state that a human individual is essentially a cultural being, and that culture is an emanation of Nature."⁶ "Emanation" is a flexible term and in the root idea of "flowing forth," I agree that culture has, over evolutionary history, flowed from sources in nature. Still, the Boeing 777 is not some sort of emanation from the old-growth forest. We need a stronger term; culture is an "emergent" from nature. Nature evolved into culture; culture evolved out of nature, but it did evolve out *of it*. Over the millennia, humans make an increasing "exodus" from nature. I agree that we humans are "essentially cultural beings," but that means we are not just emanations from nature.

III. NATURE ENVIRONING CULTURE

Still, we must be cautious. Nature is the milieu of culture. Using a metaphor, nature is the womb of culture, but a womb that humans never entirely leave. Nature can do much without culture—the several billion years of evolutionary history are proof of that. Culture, appearing late in natural history, can do nothing without nature as its ground. In this sense, culture will always have to be constructed out of, superposed on nature.

No matter what kind of exodus humans make from nature, they are going to remain male or female, with hearts and livers, and blood in their veins, walking on two feet, and eating energies that were originally captured in photosynthesis by chlorophyll. Culture remains tethered to the biosystem and the options within built environments, however expanded, provide no release from nature. Humans depend on air flow, water cycles, sunshine, nitrogen-fixation, decomposition bacteria, fungi, the ozone layer, food chains, insect pollination, soils, earthworms, climates, oceans, and genetic materials. An ecology always lies in the background of culture, natural givens that underlie everything else.

Plants and animals modify the landscapes on which they live. Despite the changes they introduce, however, plants and animals are largely adapted to the environment in which they find themselves. These adaptations are genetic, behavioral, morphological, physiological—fur or horns or teeth, or thorns or deciduous leaves or camouflage. Culture makes possible the deliberate and cumulative, and therefore the extensive, rebuilding of nature. Humans reshape their environments, including new ones into which they expand, rather than being themselves morphologically and genetically reshaped to fit their changing environments.

IV. NATURE AT AN END? A NATURE-CULTURE ELLIPSE

Has nature ended? The question is one of degree. Certainly, nature now bears the marks of human influence more widely than ever before. In one survey, using three categories, researchers find the proportions of Earth's terrestrial surface altered as follows: 1. Little disturbed by humans, 51.9%. 2. Partially disturbed, 24.2%. 3. Human dominated, 23.9%. Factoring out the ice, rock, and barren land, which supports little human or other life, the percentages become: 1. Little disturbed, 27.0%. 2. Partially disturbed, 36.7%. 3. Human dominated, 36.3%.⁷ Most terrestrial nature is dominated or partially disturbed (73.0%). Still, nature that is little or only partially disturbed remains 63.7% of the habitable Earth. If nature means absolutely pristine nature, totally unaffected by human activities, past or present, there is relatively little remaining on Earth—if our detection instruments are keen enough. Still, nature on Earth can be relatively pristine.

Nature has not been brought to an end, not yet at least. But we do have to face that possibility in the future. Daniel Botkin agrees: "Nature in the twenty-first century will be a nature that we make." "We have the power to mold nature into what we want it to be," Of course he, like

everybody else, urges us "to manage nature wisely and prudently," and, to that end, ecology can "instrument the cockpit of the biosphere."⁸ That sounds like high-tech engineering that brings wild nature under our control, remolding it into an airplane that we fly where we please. Humans have always had to rest their cultures upon a natural life support system. Their technosphere was constructed inside the biosphere. But in the future that could change; the technosphere could supercede the biosphere. Michael Soulé faces this prospect:

In 2100, entire biotas will have been assembled from (1) remnant and reintroduced natives, (2) partly or completely engineered species, and (3) introduced (exotic) species. The term *natural* will disappear from our working vocabulary. The term is already meaningless in most parts of the world because anthropogenic [activities] have been changing the physical and biological environment for centuries, if not millennia.⁹

So it does seem possible to end nature by transforming it into something humanized. This has already been taking place, and the future promises more, at an escalating pace. Over great stretches of Earth, wild nature has been already or likely will be diminished in favor of civilization. In some sense, that ought to be so. This ending may be always, in its own way, a sad thing; but it is an inevitable thing, and the culture that replaces nature can have compensating values. It would be sadder still, if culture had never appeared to grace the Earth, or if cultures had remained so modest that they had never substantially modified the landscape.

Humans too belong on the planet; and the epoch of evolutionary nature, and even of ecological nature is over. That is what is right about the view that with the arrival of humans, their cultures, and their technologies, pristine nature vanishes. Nature does not vanish equally and everywhere, but there has been loosed on the planet such a power that wild nature will never again be the dominant determinant of what takes place on the inhabited landscapes.

But this is not the whole truth. Nature neither is, nor ought to be completely ended. Or everywhere ended. We do not want entirely to transform the natural into the cultural, nor do we want entirely to blend the cultural into the natural. Neither realm ought to be reduced to, or homogenized with, the other. Humanizing it all does not make us a part of it; rather, the dominant species becomes still more dominant by managing all. That, ipso facto, sets us apart, the one species that manages the place. Rather, we humans, dominant though we are, want to be a part of something bigger, and this we can only do by sometimes drawing back to let others be. This we do precisely by setting aside places as wilderness where we will not remain, which we will not trammel.

Environmental ethics seeks a complementarity. Think of an ellipse with its twin foci. Some events are generated under the control of one focus, *culture*; such events are in the *political* zone, where "polis" (town) marks those arts and achievements where the contributions of spontaneous nature are no longer evident in the criteria of evaluation, though they remain among the precursor and sustaining events. This is the *artifactual*, the technological domain.

At the other end of the ellipse, a *wild* region of events is generated under the focus of spontaneous *nature*. These events take place in the absence of humans; they are what they are in themselves—wildflowers, loons calling, or a storm at sea. Although humans come to understand such events through the mediation of their cultures, they are evaluating events generated under the natural focus of the ellipse. The constraint of nature is maximal, the contribution of culture is minimal.

A domain of *hybrid* or *synthetic* events is generated under the simultaneous control of both foci, a resultant of integrated influences from nature and culture, under the sway variously of more or less nature and culture. Nature is redirected into cultural channels, pulled into the cultural orbit. This happens when human labor and craft put natural properties to use in culture, mixing the two to good effect in agricultural, industrial, scientific, medical, and technological applications, or to adverse effect by mistake and spillover. But always culture has to answer to what is objectively out there in nature.

Each of the foci critiques the other; the realities of nature test the wisdom of any culture; differing cultures take differing perspectives on the natural world within which they are situated and which they rebuild. "Symbiosis" is a parallel biological word. In the symbiosis zone, we have both and neither, but we do not forget there remain event-zones in which the principal determinant is culture, and other zones in which the principal determinant remains spontaneous nature. We do not want the ellipse to collapse into a circle, especially not one that is anthropocentric.

Nature as it once was, nature as an end in itself, is no longer the whole story. Nature as contrasted with culture is not the whole story either. An environmental ethic is not just about wildlands, but about humans at home on their landscapes, humans in their culture residing also in nature. This will involve resource use, sustainable development, managed landscapes, the urban and rural environments. But environmental ethicists can and ought sometimes wish nature as an end in itself.

We end with a sense in which nature has not ended and never will. Nature bats last. Humans stave off natural forces, but the natural forces will return, if one takes away the humans. Nature is forever lingering around.

Given a chance, which will come sooner or later, natural forces will flush out human effects. Even if the original wildness does not return, nature having been irreversibly knocked into some alternative condition, wildness will return to take what course it may.

If you wonder whether nature has ended, watch what happens on a vacant lot. One might think that there is no nature left, since the lot is filled with the rubble of artifacts—pop cans and broken concrete blocks. But nature comes back, and soon there are weeds sprouting up, a lush growth. We could say, in a more philosophical mood, that nature still knows how to value the place, or knows what values to put in place that can still be sustained there. In that sense, a vacant city lot, if watched long enough, testifies eloquently to how nature, managed and mismanaged by humans though it may be, does not and cannot end. In, with, and under culture, there is always this once and future nature.

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NOTES

1. Richard W. Wrangham et al., eds., *Chimpanzee Cultures* (Cambridge, MA: Harvard University Press, 1994), 2.
2. Ibid.
3. Henry Petroski, "The Boeing 777," *American Scientists* (1995): 519-522.
4. J. Baird Callicott, "La Nature est morte, vive la nature!" *Hastings Center Report* 22 (no. 5, September/October 1992): 16-23, citation on 16-18.
5. Val Plumwood, "Wilderness Skepticism and Wilderness Dualism," in *The Great New Wilderness Debate*, ed. J. Baird Callicott and Michael P. Nelson, (Athens: University of Georgia Press, 1998), 652-690, citations on 670, 675f, 682, and 685.
6. Freya Mathews, *The Ecological Self* (Savage, MD: Barnes and Noble Books, 1991), 138.
7. Lee Hannah, et al., "A Preliminary Inventory of Human Disturbance of World Ecosystems," *Ambio* 23(1994): 246-50.
8. Daniel B. Botkin, *Discordant Harmonies: A New Ecology for the Twenty-first Century* (New York: Oxford University Press, 1990), 190-193, 200f.
9. Michael E. Soulé, "Conservation Biology in the Twenty-first Century: Summary and Outlook," in *Conservation for the Twenty-first Century*, ed. David Western and Mary Pearl, (Oxford: Oxford University Press, 1989), 301.