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Ecological Morality and Nonmoral Sentiments

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Arcturian zoologists visiting this planet could make no sense of our morality and art until they reconstructed our genetic history—nor can we.

—Edward O. Wilson, *Biophilia*

Moral Sentiments

Radical environmentalists have often characterized Homo sapiens as a cancerous mutation, heedlessly devouring the planetary body that nurtured and sustains it, and thus veering toward its own destruction and that of its ecosystemic host.

If this bleak scenario is to be reversed, a key ingredient of our collective rescue must be a mix of scientifically informed insight into the consequences of our assaults upon the planet; a clear view of our duties to our species, the ecosystem, and the future; and finally the motivation to do what that duty demands of us. Of these, the third, *motivation*, and the sentiments that support it, has arguably received the least attention.

In several of his essays, J. Baird Callicott has enriched Aldo Leopold's visionary land ethic with the insights of critical and normative ethics, thus bringing Leopold's vision into the arena of philosophical debate and scholarship. To his credit, Callicott has recognized the essential role of moral psychology to a cogent environmental ethic.

Although I share Callicott's conviction that an environmental ethic cannot stand without a theory of sentiments, I dispute his suggestion that David Hume's theory of moral sentiments adequately functions in this role.[1] To the contrary, I contend that Humean *moral* sentiments are more likely to reinforce anthropocentrism and alienate humans from nature. If moral senti-

ments are to aid the ecological moralist, they must do so in a secondary way by binding human communities and motivating them to appropriate action in the defense of their natural contexts and heritage. However, for a primary motivational support of environmental ethics, we must look to the *nonmoral* sentiments. In this essay, I close with a suggestion as to where we might find those requisite nonmoral sentiments.

In several publications Callicott has attempted to show that Leopold's land ethic "actually has a legitimate ancestry in the Western philosophical canon . . . traceable through [Charles] Darwin [in the *Descent of Man*], to the Scottish Enlightenment in the eighteenth century," notably the moral philosophy of Adam Smith and David Hume.[2] He thus outlines "The Conceptual Foundations of the Land Ethic," in his essay of that title:

> Its conceptual elements are a Copernican cosmology, a Darwinian protosociobiological natural history of ethics, Darwinian ties of kinship among all forms of life on earth, and an Eltonian model of the structure of biocenoses all overlaid on a Humean-Smithian moral psychology. Its logic is that natural selection has endowed human beings with an affective moral response to perceived bonds of kinship and community membership and identity; that today the natural environment, the land, is represented as a community, the biotic community. . . .[3]

If we are to assess this claim, a review of some elements of Hume's moral philosophy is in order. First, Hume posits that moral judgment is based, not on reason, but on "some internal sense or feeling which nature has made universal in the whole species." In this crucial assertion, we find that to Hume, morality is strangely both subjective ("internal") and "universal" because these "moral sentiments" issue from "the original fabric and formation of the human mind, which is naturally adapted to receive them."[4] Note the explicit reference to the "natural" foundations and adaptations of the human mind and morality. I have much to say about this point later.

"Morality," writes Hume, "is determined by sentiment. It defines virtue to be *whatever mental action or quality gives to a spectator the pleasing sentiment of approbation*, and vice the contrary."[5] Prominent among the moral sentiments mentioned by Hume are generosity, love, friendship, esteem, compassion, gratitude, guilt, shame, contempt, and hatred. Primary among these are the sentiments of *benevolence* and *sympathy*—in fact, the latter might better be regarded as the capacity necessary for the generation of the sentiments. Note how all these sentiments are personal, that is, either reflecting or referring to qualities of persons.

Thus, if I understand him correctly, Callicott is attempting to demonstrate that Humean moral sentiments emerged from "the original fabric and formation of the human mind," as Hume himself put it in words that Charles Darwin could and apparently did embrace. Such sentiments, argues Callicott, can extend out from the individual to attach to his immediate family and friends, then to the society beyond, and finally may affirm the life community itself and thus support a normative environmental ethic.

I believe this view to be unworkable because (1) the application of "moral sentiments" ends with our "moral community," which (2) can be no more than a community of persons, or at most, of sentient beings, due to the profound disanalogies between such "moral communities" and Leopold's "natural community" of ecosystems. These points require argument. I begin with moral sentiments.

Just what are *moral sentiments*? Let's take the phrase one word at a time. First, I interpret the crucial term *moral* in a manner I believe to be fairly standard among contemporary moral philosophers. The adjective *moral* must have, lurking at least somewhere in its context of application, some deliberative agent or community of agents, which is to say, a "person" (although not necessarily a human). *Moral* implies responsibility, accountability, praise, and blame. In essence, a moral judgment is a judgment that reflects upon the worth of a person. Persons of moral worth are called "virtuous," and persons of little worth are called "wicked." Acts that reflect well on persons are "right" and their opposites are "wrong." On a planet without persons, however teeming with sentient but nondeliberative and nonreflective life, there will be "goods" and "bads," but no morality—no right and wrong, no justice, no duties, no rights. Put bluntly, if the latest data of human evolution are to be believed, morality emerged upon the Earth within the past million years—possibly within the past few tens of thousand years.

Moral sentiment, then, is simply an emotional and evaluative attitude toward a person, persons, or their institutions. Positive and negative moral sentiments toward oneself include, respectively, *self-esteem* and *guilt* or *shame*. Toward others, these sentiments are respectively called *admiration* and *indignation* or *contempt*. Of particular interest to Hume, and thus to Callicott, are the moral sentiments of *sympathy* and *benevolence*.

We morally praise and blame people with regard to their treatment of other persons. The traditional virtues (i.e., *courage*, *charity*, *benevolence*, *trust*, and *fidelity*) testify to the command of our will and signify our recognition of the worth of other persons. The deadly sins (i.e., *pride, lust, anger, gluttony, sloth, envy,* and *greed*) issue from our depersonalization of our brethren and stigmatize the willful crippling of our moral potential.

The worth of persons—of oneself and of those with whom we deal—is the paradigm context of moral evaluation. The invasion of personal interest and the destruction of personal property have traditionally been regarded as paradigms of immorality. By extension, the infliction of pain upon defenseless, sentient nonpersonal beings has been seen as a penumbral immorality.

With this elucidation, I submit that the problem of basing a normative environmental ethic on *moral* sentiments becomes clear. *Moral* sentiments seem to require *persons* in the equation. But what if persons are not apparent among the objects of our concern? We can ask: "Why does the clear-cutting of a primeval forest, the damming of a wild river, or the extinction of a species, violate a normative environmental ethic?" If these are moral wrongs, then one must presumably show that the agents responsible have done something that reflects poorly upon them as persons, due perhaps to their wrongful treatment *of* persons. Yet all this environmental destruction might be done *on behalf of* persons: the rain forest cut on behalf of the poor farmers, dams built to provide cheap and abundant power, and so on.

To state that the willful destruction of nature is morally wrong, presupposes an underlying theory of value that supports principles, the violation of which reflects unfavorably upon the worth of the agent responsible for this destruction. As the precondition for moral evaluation, such a theory must be a theory of *nonmoral* value, otherwise the theory will be circular.[6] Thus, if this theory is based upon sentiments, then these must be *nonmoral* sentiments.

At this point, two theoretical roads diverge: along one, we return to a familiar anthropocentrism by identifying *nonmoral value* as pleasure/pain, or human potential and welfare, or some other "good for people"—choose your theory. Along the other road, we might seek intrinsic values in nature, a vast and fascinating realm of inquiry. The second road, I believe, is far more promising for environmental ethics, and Callicott has often explored it in promising and suggestive ways.

Unfortunately for the argument offered by Callicott, Hume appears to have had the first road in mind. As Callicott correctly points out, Hume's moral sentiments have their origin in interpersonal relationships. These sentiments are evoked by our recognition of the personhood or sentience in others. *Personhood* is not only the source of these moral sentiments but also its limit. Accordingly, the Humean sentiment of *benevolence* is not directed toward insentient nature, much less toward abstractions such as species or ecosystems.[7] Nor can Humean *sympathy* connect with objects in or conditions of impersonal nature. Hume could not have been more explicit concerning this point than when he wrote: "Inanimate objects . . . can never be the object of love or hatred, nor are [they] consequently susceptible of merit

or iniquity."[8] Thus, the Humean moralist will favor the logger and his dependent family over the old-growth forest, the abalone fishermen over the sea otters, the Lake Powell water skiers over the Glen Canyon wrens. I submit that the uses to which Callicott is putting moral sentiments would astonish David Hume.

Humean moral sentiment is a poor theoretical stream in which to fish for a land ethic.

Human and Natural Communities

Like Callicott and many other ecophilosophers, I find Leopold's "natural community" metaphor to be attractive and have often used it. Occasionally, some of my colleagues have warned me not to be beguiled by this metaphor. Reading Callicott, I begin to see what they had in mind.

No one can read Leopold without recognizing immediately and vividly the aptness of the community metaphor. As in human societies, the individual "members" survive and flourish only as they interact and respond, share and cooperate (even in the "cooperative" act of predation), and thus sustain the "community"—a whole that is more than the sum of its individual parts, in fact that is best conceived, not in terms of its component parts, but in terms of its internal relations and processes.

So much for the compelling analogies. One fundamental disanalogy remains: the human community alone is characterized by reciprocity among moral agents. Thus, *rights, duties, justice*, and *responsibility* belong exclusively to the axiological vocabulary of human communities. These terms are meaningless in the natural community unless that community is touched by the human (or better, the *personal*).[9]

If the reach of moral sentiment stops at the barrier of personhood or, at most, of sentience, does not the extent of the moral community likewise end with those beings who can reciprocate the bonds of moral consideration, or at least have the bare neural equipment to care how they are treated? Callicott thinks not and for reasons now familiar to us. In "Intrinsic Value, Quantum Theory, and Environmental Ethics," he writes:

> Hume suggests that the values you project onto objects are not arbitrary, but arise spontaneously in you because of the "constitution of your nature.". . . Leopold masterfully played upon our open social and moral sentiments by representing plants and animals, soils and waters as "fellow members" of our maximally expanded "biotic community." Hence, to those who are ecologically well-informed, non-

> human natural entities are inherently valuable—as putative members of one extended family or society. And nature as a whole is inherently valuable—as the one great family or society to which we belong as members or citizens.[10]

Here Callicott boldly goes where few moral philosophers have gone before, carrying his community metaphor to the far end of the field.

A critic of Callicott may reply:

> It is just the differences between human and natural "communities" that cause me to reject this extension. Extend out from human communities, and you leave the domain of cognition and reciprocation among equals, to that of mere sentience, and then, into the domain of insentience and nonlife. As you do, you shed the stringency of your moral imperatives. Thus, as my neighbor cares how I treat him and his property, so then must I respect his concerns, as I demand that he respect mine. To assure this mutual respect and restraint, we form communities regulated by laws. But that redwood and that river don't care in the least how I treat them—so why should I? Granted, if I despoil the tree and the river, and thus violate the "integrity, stability and beauty" of the so-called ecological "community" of which they, and I, are a part, I will also impoverish my world and that of my neighbors and posterity. So I'll keep on paying my Sierra Club dues, and I'll agree to march on Washington. But I'll do all this for my sake, and that of my neighbors and posterity—not for the "sake" of the tree and river which, strictly speaking, have no "sake."[11]

Callicott correctly points out that it is scientific knowledge that makes us "ecologically well-informed" by teaching us that the ecosystem is a figurative "community" in the sense of a cooperative scheme of interacting parts, and of information, energy, and nutrient distribution. But the social sciences also point out significant dissimilarities between ecosystems and human communities of persons, with their complex systems of moral controls (e.g., reciprocating rights and duties, procedural and distributive justice, sanctions, moral sentiments.) To be fully "well-informed" is to be aware both of the similarities and the differences of these two "communities."

Nevertheless, the attempt to extend, by analogy, our loyalty to our human community over to the natural, is based on the presupposition that our *human* community deserves our prima facie loyalty (surely one of the most fundamental assumptions of political philosophy). Notice how Callicott uses this presumptive "community loyalty" to derive, by extension, a (deontolog-

ical) *ought* from the ecological *is*, as he asks why we should, in Leopold's indelible words, "preserve the integrity, stability, and beauty of the biotic community." Callicott replies: "Because (1) we all generally have a positive attitude toward the community or society to which we belong; and (2) science has now discovered that the natural environment is a community or society to which we belong, no less than to the human global village."[12]

But *should* we "have a positive attitude"? Unfortunately for Callicott's argument, a "positive attitude" is a notoriously poor "is" from which to imply an "ought." For instance, saying that "P has a positive attitude toward his or her society," and then saying that "P's society is unjust" (or otherwise "bad") makes perfectly good sense. Still worse, doing so is commonplace. Consider, for example, Eichmann's attitude toward the Nazi society. Fundamental to our political traditions is the conviction that our political institutions must measure up morally. If they do not, we strive to reform them, and failing that, we are entitled to abolish them. "Community" is not a self-authenticating good.

How, then, do we reply to those who say that "Mother Nature is a monster," and her so-called "community" deserves to be wiped out and supplanted by the sort of artificial environments beloved by James Watt (and others . . .)? One might reply that if we attempt to obliterate nature, nature will strike back and obliterate us instead. But even if one accepts this retort (as I do), if that is all one has to say on behalf of the land ethic, that ethic reduces to "enlightened anthropocentrism." Surely Callicott and Leopold want more from their land ethic than it. I know that I do.

Clearly, what we need is some indication that each of us is, in Leopold's eloquent words, a "plain member and citizen" of the land community, notwithstanding the fact that our "fellow citizens" in this community are unreflective, inarticulate, and in most cases, insentient. The scientific evidence that we stand in fundamental interdependence with "the life community" of nature is, I submit, conclusive. But this conclusion merely bids us that, in our dealings with nature, we should be prudent at best—that we should "obey" the "laws of ecology" for our own good: "enlightened anthropocentrism" again.

This is not an environmental ethic that Leopold or Callicott can accept; nor can I. *Fear* and *apprehension* of nature, and of its retaliation upon us for our poor management, are precisely the opposite of sentiments sought by the ecomoralists. What they celebrate is an ethic founded on the gentler sentiments of affirmation, wonder, and love. Are such sentiments toward nature appropriate or even possible? I believe that they are not only possible, but also that they may even be essential to a viable environmental ethic, which is to say, to our continued membership in the natural "community."

Interestingly, I suspect that Hume, Darwin, and Callicott have each made significant contributions toward the articulation of an empirical and cognitivistic theory of ecomorality, based upon natural (but *not* "moral") sentiments. Briefly, the theory is as follows: We are genetically "programmed" to respond to nature with the sentiments of affirmation, wonder, and love because nature supplies the environment that selected our genes and thus shaped our neurological and cognitive equipment. However intuitively attractive the theory may appear, it rests on some poorly validated conjectures about the origin and status of certain fundamental responses to nature. Yet, if supported by subsequent empirical investigation, it just might be the "theory of sentiments" sought by Callicott to "support a normative environmental ethic." Concerned that I just might have been all too successful in my critique of Callicott's worthy search for "moral sentiments" in defense of the land ethic, I turn now to the task of suggesting an alternative theory of sentiments.

Natural Nonmoral Sentiments

In a celebrated and oft-quoted letter, Wallace Stegner writes:

> Something will have gone out of us as a people if we ever let the remaining wilderness be destroyed; if we permit the last virgin forests to be turned into comic books and plastic cigarette cases; if we drive the few remaining members of the wild species into zoos or to extinction; if we pollute the last clear air and dirty the last clean streams. . . . so that never again can we have the chance to see ourselves single, separate, vertical and individual in the world, part of the environment of trees and rocks and soil, brother to the other animals, part of the natural world and competent to belong to it.[13]

Just what will we have lost? *Nothing*, replies Martin Krieger in his notorious paper, "What's Wrong with Plastic Trees?" After all, we are "plastic people," that is, infinitely malleable. We can adapt to anything, and like it. . . .[14] On the contrary, writes botanist Hugh Iltis, "like the need for love, the need for nature, the need for its diversity and beauty, has a genetic basis. . . ."[15] E. O. Wilson elaborates:

> The brain evolved into its present form over a period of about two million years, from the time of *Homo habilis* to the late stone age of *Homo sapiens*, during which people existed in hunter-gatherer bands in intimate contact with the natural environment. Snakes mattered. The smell of water, the hum of a bee, the directional bend of a plant

> stalk mattered. The naturalist's trance was adaptive: the glimpse of one small animal hidden in the grass could make the difference between eating and going hungry in the evening. And a sweet sense of horror, the shivery fascination with monsters and creeping forms that so delights us today even in the sterile hearts of the cities, could see you through to the next morning. . . . Although the evidence is far from all in, the brain appears to have kept its old capacities, its channeled quickness. We stay alert and alive in the vanished forests of the world."[16]

And so the issue is joined.

Almost two decades ago I gave this hypothesis a name, *bio-humanism,* and today that term is in use in a language community of approximately one. With much more success, Wilson gave the theory the name *biophilia,* which he used as the title of his book, published in 1984. The debate that has raged over the issue is a fascinating story in itself, but one that I must bypass.[17] Suffice to say that little progress has been made toward a resolution twenty-three years after Krieger threw down his plastic gauntlet and Iltis led the countercharge on behalf of our genes and their allegedly favored habitats. Wilson, a strong advocate of the theory, admits that "the subject has not been studied enough in the scientific manner . . . to let us be certain about it one way or the other,"[18] and Paul Ehrlich adds that such a demonstration "would be a task beyond the scope of today's biology."[19]

If, in fact, our genes beckon us home to our natural origins, throngs of noteworthy individuals seem able to ignore these siren songs, not only with little apparent harm, but even with some enthusiasm. The story is told that James Watt, then U.S. Secretary of the Interior and thus the overseer of the national parks, pleaded after three days of a two-week trip through the Grand Canyon, to be rescued from that dreadful wilderness. A park service helicopter was dispatched to pull him out.

Notwithstanding such puzzling counterexamples, I assume that there is at least something to the biophilia hypothesis—that, to use Paul Shepard's vivid image, the destruction of nature is an "amputation of man."[20] How we can live in a totally artificial environment, detached from the environment that selected our genes and shaped our genome, without going bonkers, remains to be determined. I only suggest that among those genes that hardwire our nervous system, are a few that dispose us toward having positive "natural sentiments" toward undisturbed nature, and conversely, to suffer when deprived of our primeval landscapes. From this "biophilic" nervous system has issued the great works of art, literature, and science that celebrate nature. *The Pastoral Symphony*, *La Mer*, *The Starry Night*, *Walden*, *A Sand County Alma-*

nac, and *Desert Solitaire* are all voices of nature speaking back to us and through us.

We are back to the "natural sentiments," this time the sentiments of *wonder, delight, serenity,* and throughout of *affirmation*. But these sentiments are not directed to persons; nor do they reflect on our worth as persons, although they may indicate our state of neurological health. In short, "biophilia" may provide us with the sort of nonmoral psychological equipment that we are looking for. If so, then what follows?

First of all, it would seem to follow that being in tune with nature is a sign of *health* that can offer a hard objective reference into the contentious arena of ethical debate.

Granted, the analysis of the concept of *health* is open to considerable debate among medical ethicists. However, little debate occurs among doctors and their patients. To paraphrase Justice Powell, we may not know how to define *health,* but we all know what it is when we have it, and even more acutely, when we do not. Moreover, the further we get "down" Maslow's pyramid from "social health" to "mental health" to "emotional health" and then to "physiological health," the less controversial is the concept of health. To be "unhealthy" is to be "diseased," which means to suffer pain (more than normally), to lack vitality, to have a diminished life expectancy (due to physiological conditions), and all other factors equal, to be less happy. If someone were to say that by this analysis, a drug addict or an alcoholic is more "healthy" because he or she is euphoric, then one need only add the qualifier "in the long term" to dismiss that sophistry.

Thus, the clear implication of biophilia is as follows: an *artificial world* is a world in which one is less "healthy" than in a world with nature abundant, conspicuous, and itself "healthy." Thus, the destruction of nature deprives us of our "health." Perhaps we can live without it—but we cannot live as well. It follows that if the existence of natural environments and landscapes is, like an essential "nutrient" in our diet, necessary for our health, then we might have within our reach a naturalistic theory of sentiments and, hence, of evaluation. But not yet of *moral* evaluation. However, this step is not far behind. To return to our medical analogy, although health is a nonmoral value, it is a basis for evaluating moral virtue and wickedness: virtue in the endeavor to maintain and restore the health of others for their sake and wickedness in the careless disregard of the health of others. Thus, if the preservation of nature is essential for the health of human individuals, societies, and posterity, then "environmentalists," as they strive to protect and restore nature, are engaged in a moral enterprise.

Upon the foundation of these nonmoral natural sentiments—call it *psycho-eco-health*—some familiar moral issues arise. For example, wilderness and nat-

ural environments are, as we well know, becoming increasingly scarce. This situation raises moral questions of distributive justice, not unlike those questions raised with regard to scarce economic resources.

Another moral issue concerns the social institutions best suited to optimize psycho-eco-health. Herein, the Humean moral sentiments such as *benevolence* and *sympathy* can be enlisted to preserve nature, the font of nonmoral biophilic sentiment, as we address the question, "How shall we, as a human community, regard and treat the natural environment?" It will not do for each of us, in response to our private biophilic sentiments, to go at it alone. Doing so would only introduce the well-known "tragedy of the commons," for if we fail to adopt a robust social contract regarding our treatment of the environment—if, that is, we attempt to protect nature through the uncoordinated and individual volitions of "6 billion points of light"—then clearly the natural environment has had it. Accordingly, if nature is to be protected and preserved, it must be done through a social compact to protect it ("mutual coercion, mutually agreed upon," as Garrett Hardin puts it), at the cost of foregoing many human freedoms and benefits.

By empathetically recognizing in others the biophilic "need for nature" that we feel in ourselves, we may be moved, through Humean benevolence, to preserve nature for all, and for posterity. Thus, moral sentiments, which are incapable of attachment *to* nature (for reasons argued earlier), can be enlisted *on behalf of* nature—given, of course, a foundation of nonmoral "natural sentiment" that affirms nature.

But are we not thus becoming anthropocentrists, albeit "enlightened anthropocentrists," in spite of ourselves? Is this not an argument to preserve nature for humanity's sake, notwithstanding the acknowledgment that humanity has a stake in preserving the origins of its own genome? That criticism stands on an implicit human-nature dichotomy that is severely undermined by the biophilic hypothesis. That hypothesis, after all, posits a "naturalness" to "human nature" that obscures the boundary. As Callicott eloquently argues in his "Quantum Theory" essay,[21] the very notion of the subject-object dichotomy may now be outmoded. After all, Shepard reminds us, "ecological thinking requires a kind of vision across boundaries."[22] Thus, the new physics, the ecological vision, and now biophilia all affirm the Zen maxim that "the World is my Body." *Enlightened anthropocentrism?* The more the "enlightenment," the less the anthropocentrism.

To repeat a theme that I have often urged, just as a "moral paradox" exists in our personal relations, a "paradox of ecomorality" also exists. In the first case, the lover's life is enhanced to the degree that he or she cares less for himself or herself and genuinely focuses concern on the well-being of the loved one. The "game is lost" when he or she starts to ask, "What's in this for me?"

Similarly, only if we genuinely treat the natural environment with respect and restraint, finding and cherishing values in it that we regard as *intrinsic,* can we flourish in that environment and deserve to do so.[23] As Leopold so wisely observed, "We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect."[24] I think he might have said, just as well, that "if we treat land with love and respect, we might be less likely to see it as a commodity and be more inclined to value it for itself." Crass anthropocentrism is little more than asking of the land, "What's in it for me?" Biophilia suggests that a fundamental genetic basis may exist for this sentiment of love and respect for the land, a sentiment that may be essential if we are to act on an ecological "moral paradox."[25]

These biophilic considerations suggest an environmental ethic that may be more Aristotelian than Humean in that the "goodness" of being in tune with nature (i.e., of living in a surrounding that we evolved from and preserving the conditions of our evolution) is a goodness interpreted as a consistency with human nature and fulfillment. Furthermore, it is an ethic that endorses the actualization of human potential because it suggests that we are most likely to flourish in a natural environment, just as an acorn can best manifest its potential "oakness" in a biome that is conducive to the flourishing of oak trees. Thus, we can accomplish our fullest potential in the Aristotelian sense—have the best kinds of lives—if those lives can develop in an environment that is genetically natural to us, which is to say an environment to which we are "attuned." This, I think, is an essential claim of biophilia that Aristotle might recognize and, apprised of the facts, even endorse.

But what if biophilia is false? What if we are, as Krieger claims, "infinitely malleable"? If so, then I believe that the prospects for a robust environmental ethic will be severely diminished. Yet, even then, all is not lost. We can still choose between an artificial and a natural world (or various mixes between). Also, we can choose between learning to like plastic trees or live trees. We can be all of whatever we can be. We can, that is, *design* affirmative nonmoral sentiments toward nature or abolish them, and in the short term at least, be none the worse for either choice. I strongly suggest the former: to design ourselves as if we were designed by nature to affirm nature. Why? Because, if left to its own processes, a natural world is stable, self-regulating, and permanent and thus a safer place for us. Unlike a totally artificial world, a natural world need not be constantly managed and will not destroy us by falling apart from neglect and disrepair. If nature seems fragile now and thus threatening to us, it is not so because of its inherent weakness. It is fragile and threatening because of the assault of our artifice upon it.

The truth of the biophilia hypothesis is still at issue, and serious investigation is long overdue. In the meantime, nature is retreating at an alarming and accelerating rate—tropical forests, species, coastal wetlands, migratory routes, the common atmosphere. Wilderness areas and species once lost, cannot be reclaimed. What we have done and are doing to our planet cannot easily be undone. Thus, unless and until we can be confident that there is no need for what we are casually destroying (i.e., no need coded in our common genes and designed into our nervous system) we would best be very cautious toward our natural estate. Far more cautious, I submit, than we are today.

Summary

If the foregoing arguments are successful, we must reluctantly reject Callicott's suggestion that a normative environmental ethic can be supported by a theory of moral sentiments because moral sentiments arise from interpersonal relations and thus are fated to be confined to communities of persons. Nonetheless, moral sentiments can motivate, coordinate, and implement appropriate ethical behavior and policy toward the environment. This second order application of moral sentiment to an environmental ethic is of little use, however, without an underlying *nonmoral* theory of environmental value and responsibility. Interestingly, Hume, Darwin, Leopold, and Callicott, despite the false start noted earlier, may nonetheless be close to the mark. They are right to suggest (either directly or by implication) that we must ground our environmental ethic in appropriate attitudes and sentiments. But, I have argued, these must be sentiments of a *nonmoral* kind. I have offered the hopeful suggestion that the sentiments we need to validate an environmental ethic and motivate ethical environmental policy in fact may be fundamental to our physical and neural constitution, having evolved through natural selection amidst the very natural environment that we must now preserve. If so, then this theory of *nonmoral sentiments* might support a normative environmental ethic. Finally, to end on a hopeful note, these fundamental natural sentiments and affections just might give us the motivational substance that we manifestly need in the face of the enormous environmental responsibilities before us, brought on by our folly and greed.

Notes

1. J. Baird Callicott, "Can a Theory of Moral Sentiments Support a Genuinely Normative Environmental Ethic?" *Inquiry* 35 (1992): 183–198.

2. Callicott, “Can a Theory of Moral Sentiments,” 184.
3. J. Baird Callicott, “The Conceptual Foundations of the Land Ethic,” in *In Defense of the Land Ethic*, ed. J. Baird Callicott (Albany, N.Y.: SUNY Press, 1989), 93.
4. David Hume, *An Inquiry Concerning the Principles of Morals* (New York: Bobbs-Merrill, 1957), 5.
5. Hume, *An Inquiry Concerning the Principles of Morals*, 107.
6. Clearly, simply arguing that “X is immoral because it violates a moral rule Y, which is immoral” will not do. Eventually, an account of “morality and immorality” must be given that does not repeat the *definiendum* in the *definiens.*
7. In fact, Hume had no inclination to apply moral sentiments to abstractions and collectives, such as “the human community.” In *A Treatise of Human Nature* (New York: Doubleday-Dolphin, 1961), 433–434, bk. 3, pt. 2, sec. 1, he wrote: “In general, it may be affirmed that there is no such passion in human minds, as the love of mankind, merely as such, independent of personal qualities, of services, or of relation to ourself.”
8. Hume continues, “A young tree which overtops and destroys its parent stands in all the same relations with Nero when he murdered Agrippina, and if morality consisted merely in relations would, no doubt, be equally criminal.” *An Inquiry Concerning the Principles of Morals*, 111.
9. These bold pronouncements have the tincture of dogmatism. Yet a meticulous demonstration of it would lead us hopelessly astray from the primary theme of this essay. Fortunately, I have elsewhere defended the connection between moral agency, language, and community and am willing to allow these other works to stand in support of this paragraph. See in particular, my “Posthumous Interest and Posthumous Respect,” *Ethics* 91, no. 2 (1981): 243–264; “Nature as a Moral Resource,” *Environmental Ethics* 4 (1982): 175–190; “Three Wrong Leads in a Search for an Environmental Ethic,” *Ethics and Animals* 3 (September 1994): 61–74; “Why Care about the Future?” in *Responsibilities to Future Generations*, ed. Ernest Partridge (Buffalo, N.Y.: Prometheus Books, 1981*)*.
10. J. Baird Callicott, “Intrinsic Value, Quantum Theory, and Environmental Ethics,” in *In Defense of the Land Ethic*, 162–163.
11. Here I adopt and apply (as I have before) Joel Feinberg’s “interest theory of rights,” as defended in his influential essay, “The Rights of Animals and Unborn Generations,” in *Philosophy and Environmental Crisis*, ed. William T. Blackstone (Athens: University of Georgia Press, 1974).
12. J. Baird Callicott, “Hume’s *Is/Ought* Dichotomy and the Relation of Ecology to Leopold’s Land Ethic,” in *In Defense of the Land Ethic*, 127.
13. Wallace Stegner, *The Sound of Mountain Water* (Garden City, N.Y.: Doubleday, 1969), 146–147.
14. Martin Krieger, “What’s Wrong with Plastic Trees?” *Science* 2 (February 1973): 453.
15. Hugh Iltis, “To the Taxonomist and the Ecologist, Whose Fight Is the Preservation of Nature,” *BioScience* 16 (1967): 887. In numerous articles and lectures in the early 1970s, Iltis was among the first, perhaps the first, to articulate and defend this theory. It is a great pity that his energy and devotion did not prompt an appropriate response among scientific researchers and environmental philosophers.
16. Wilson, *Biophilia* (Cambridge, Mass.: Harvard University Press, 1984), 101.

17. For a sample see Stephen R. Kellett and Edward O. Wilson, ed., *The Biophilia Hypothesis* (Washington, D.C.: Island Press, 1993).
18. Wilson, *Biophilia,* 84.
19. Paul R. Ehrlich, "Shared Sensibilities," *Natural History* (November 1984): 92.
20. Paul Shepard, "Ecology and Man," in *The Subversive Science*, ed. Paul Shepard and Daniel McKinley (Boston: Houghton Mifflin, 1969), 4.
21. Callicott, "Intrinsic Value, Quantum Theory, and Environmental Ethics."
22. Shepard, "Ecology and Man," 4.
23. Iltis states the full force of the paradox: "Not until man places man second, or, to be more precise, not until man accepts his dependency on nature and puts himself in place as part of it, not until then does man put man first! This is the greatest paradox of human ecology." H. H. Iltis, "Man First, Man Last: The Paradox of Human Ecology," *BioScience* 20 (1970): 820. The issue of the status of values in nature, here reduced to the confines of a sentence, is treated with more care and elaboration in my "Values in Nature," *Philosophical Inquiry* 8, no. 1–2 (Winter–Spring 1986): 96–110.
24. Aldo Leopold, *A Sand County Almanac* (New York: Sierra Club/Ballantine, 1970), xviii–xix.
25. Time permits only a statement of this paradox. The elaboration and justifications lie elsewhere. My own attempts along this line include "Why Care about the Future?" in *Responsibilities to Future Generations*, ed. Ernest Partridge (Buffalo N.Y.: Prometheus Books, 1981), 203–219; "Environmental Ethics: Obstacles and Opportunities," in *Environmental Consciousness*, ed. Robert C. Schultz and J. Donald Hughes (Washington D.C.: University Press of America, 1981), 325–350; and "Nature as a Moral Resource," *Environmental Ethics*, 6 (1984): 101–130.