

The Wilderness Idea Reaffirmed

Holmes Rolston, III

Colorado State University

Abstract. The concept of wilderness is coherent and vital for the protection of intrinsic natural values. Wild nature differs from human culture in radical ways. To suppose that humans can improve spontaneous wild nature deliberately is a contradiction in terms. Kinds of biodiversity can be protected by wilderness designation that are protected doubtfully by rural indigenous peoples. American landscapes, though sometimes affected by the aboriginal inhabitants, were not modified so dramatically or irreversibly as to make wilderness designation impossible. Though unavailable to aboriginal peoples, the wilderness ideal is critical today.

The need for sustainable development on agricultural lands does not prejudice the need for wilderness, nor does wilderness designation lead to complacency about sustainable development. Baird Callicott's nondiscriminating account of humans as entirely natural is a metaphysical confusion. Coupled with his anthropogenic value theory, the outcome operationally will be inadequate respect for intrinsic natural values.

INTRODUCTION

Revisiting the wilderness, Callicott (1991) is a doubtful guide; indeed he has gotten himself lost. That is a pity, because he is on the right track about sustainable development and I readily endorse his positive arguments for developing a culture more harmonious with nature. But these give no cause for being negative about wilderness.

The wilderness concept, we are told, is "inherently flawed," triply so. It metaphysically and unscientifically dichotomizes man and nature. It is ethnocentric, because it does not realize that practically all the world's ecosystems were modified by aboriginal peoples. It is static, ignoring change through time. In the flawed idea and ideal, wilderness respects wild communities where man is a visitor who does not remain. In the revisited idea(I), also Leopold's ideal, humans, themselves entirely natural, reside in and can and ought to improve wild nature.

HUMAN CULTURE AND WILD NATURE

Wilderness valued without humans perpetuates a false dichotomy, Callicott maintains. Going back to Cartesian and Greek philosophy and Christian theology, such a contrast between humans and wild nature is a metaphysical confusion that leads us astray and also is unscientific. But this is not so. One hardly needs metaphysics or theology to realize that there are critical differences between wild nature and human culture. Humans now superimpose cultures on the wild

nature out of which they once emerged. There is nothing unscientific or nonDarwinian about the claim that innovations in human culture make it radically different from wild nature.

Information in wild nature travels intergenerationally on genes; information in culture travels neurally as persons are educated into transmissible cultures. (Some higher animals learn limited behaviors from parents and conspecifics, but animals do not form transmissible cultures.) In nature, the coping skills are coded on chromosomes. In culture, the skills are coded in craftsman's traditions, religious rituals, or technology manuals. Information acquired during an organism's lifetime is not transmitted genetically; the essence of culture is acquired information transmitted to the next generation. Information transfer in culture can be several orders of magnitude faster and overleap genetic lines. I have but two children; copies of my books and my former students number in the thousands. A human being develops typically in some one or a few of ten thousand cultures, each heritage historically conditioned, perpetuated by language, conventionally established, using symbols with locally effective meanings. Animals are what they are genetically, instinctively, environmentally, without any options at all. Humans have myriads of lifestyle options, evidenced by their cultures; and each human makes daily decisions that affect his or her character. Little or nothing in wild nature approaches this.

The novelty is not simply that humans are more versatile in their spontaneous natural environments. Deliberately rebuilt environments replace spontaneous wild ones. Humans can therefore inhabit environments altogether different from the African savannas in which they once evolved. They insulate themselves from environmental extremes by their rebuilt habitations, with central heat from fossil fuel or by importing fresh groceries from a thousand miles away. In that sense, animals have freedom within ecosystems, but humans have freedom from ecosystems. Animals are adapted to their

Holmes Rolston, III, is a professor of philosophy in the Department of Philosophy, Colorado State University, Fort Collins, CO 80523, and the author of *Environmental Ethics* and *Philosophy Gone Wild*.

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niches; humans adapt their ecosystems to their needs. The determinants of animal and plant behavior, much less the determinants of climate or nutrient recycling, are never anthropological, political, economic, technological, scientific, philosophical, ethical, or religious. Natural selection pressures are relaxed in culture; humans help each other out compassionately with medicine, charity, affirmative action, or headstart programs.

Humans act using large numbers of tools and things made with tools, extrasomatic artifacts. In all but the most primitive cultures, humans teach each other how to make clothes, thresh wheat, make fires, bake bread. Animals do not hold elections and plan their environmental affairs; they do not make bulldozers to cut down tropical rainforests. They do not fund development projects through the World Bank or contribute to funds to save the whales. They do not teach their religion to their children. They do not write articles revisiting and reaffirming the idea of wilderness. They do not get confused about whether their actions are natural or argue about whether they can improve nature.

If there is any metaphysical confusion in this debate, we locate it in the claim that "man is a natural, a wild, an evolving species, not essentially different in this respect from all the others" (p. 241). Poets like Gary Snyder perhaps are entitled to poetic license. But philosophers are not, especially when analyzing the concept of wildness. They cannot say that "the works of man, however precocious, are as natural as those of beavers," being "entirely natural," and then, hardly taking a breath, say that "the cultural component in human behavior is so greatly developed as to have become more a difference of kind than of degree" (p. 241). If this were only poetic philosophy it might be harmless, but proposed as policy, environmental professionals who operate with such contradictory philosophy will fail tragically.

"Anthropogenic changes imposed upon ecosystems are as natural as any other" (Callicott, 1990). Not so. Wilderness advocates know better; they do not gloss over these differences. They appreciate and criticize human affairs, with insight into their radically different characters. Accordingly, they insist that there are intrinsic wild values that are not human values. These ought to be preserved for whatever they can contribute to human values, and also because they are valuable on their own, in and of themselves. Just because the human presence is so radically different, humans ought to draw back and let nature be. Humans can and should see outside their own sector, their species self-interest, and affirm nonanthropogenic, noncultural values. Only humans have conscience enough to do this. That is not confused metaphysical dichotomy; it is axiological truth. To think that human culture is nothing but natural system is not discriminating enough. It risks reductionism and primitivism.

These contrasts between nature and culture were not always as bold as they now are. Once upon a time, culture evolved

out of nature. The early hunter-gatherers had transmissible cultures but, sometimes, were not much different in their ecological effects from the wild predators and omnivores among whom they moved. In such cases, this was as much through lack of power to do otherwise as from conscious decision. A few such aboriginal peoples may remain.

But we Americans do not and cannot live in such a twilight society. Any society that we envision must be scientifically sophisticated, technologically advanced, globally oriented, as well as (we hope) just and charitable, caring for universal human rights and for biospheric values. This society will try to fit itself in intelligently with the ecosystemic processes on which it is superposed. It will, we plead, respect wildness. But none of these decisions shaping society are the processes of wild nature. There is no inherent flaw in our logic when we are discriminating about these radical discontinuities between culture and nature. The dichotomy charge is a half-truth, and, taken for the whole, becomes an untruth.

HUMANS IMPROVING WILD NATURE

Might a mature, humane civilization improve wild nature? Callicott thinks that it is a "fallacy" to think that "the best way to conserve nature is to protect it from human habitation and utilization" (p. 236). But, continuing the analysis, surely the fallacy is to think that a nature allegedly improved by humans is anymore real nature at all. The values intrinsic to wilderness cannot, on pain of both logical and empirical contradiction, be "improved" by deliberate human management, because deliberation is the antithesis of wildness. That is the sense in which civilization is the "antithesis" (p. 236) of wilderness, but there is nothing "amiss" in seeing an essential difference here. Animals take nature ready to hand, adapted to it by natural selection, fitted into their niches; humans rebuild their world through artifact and heritage, agriculture and culture, political and religious decisions.

On the meaning of "natural" at issue here, that of nature proceeding by evolutionary and ecological processes, any deliberated human agency, however well intended, is intention nevertheless and interrupts these spontaneous processes and is inevitably artificial, unnatural. (There is another meaning of "natural" by which even deliberated human actions break no laws of nature. Everything, better or worse, is natural in this sense, unless there is the supernatural.) The architectures of nature and of culture are different, and when culture seeks to improve nature, the management intent spoils the wildness. Wilderness management, in that sense, is a contradiction in terms—whatever may be added by way of management of humans who visit the wilderness, or of restorative practices, or monitoring, or other activities that environmental professionals must sometimes consider. A scientifically managed wilderness is conceptually as impossible as wildlife in a zoo.

To recommend that *Homo sapiens* "reestablish a positive symbiotic relationship with other species and a positive role

in the unfolding of evolutionary processes" (p. 240) is, so far as wilderness preservation is involved, not just bad advice, it is impossible advice. The cultural processes by their very "nature" interrupt the evolutionary process; there is no symbiosis, there is antithesis. Culture is a post-evolutionary phase of our planetary history; it must be superposed on the nature it presupposes. To recommend, however, that we should build sustainable cultures that fit in with the continuing ecological processes is a first principle of intelligent action, and no wilderness advocate thinks otherwise.

If there are inherent conceptual flaws dogging this debate, we have located another: Callicott's allegedly "improved" nature. In such modified nature, the different historical genesis brings a radical change in value type. Every wilderness enthusiast knows the difference between a pine plantation in the Southeast and an old-growth grove in the Pacific Northwest. Even if the "improvement" is more or less harmonious with the ecosystem, it is fundamentally of a different order. Asian ring-tailed pheasants are rather well naturalized on the contemporary Iowa landscape. But they are there by human introduction, and they remain because farmers plow the fields, plant corn, and leave shelter in the fencerows. They are really as much like pets as like native wild species, because they are not really on their own.

BIODIVERSITY AND WILDERNESS

As an example of his recommended symbiosis where human culture enriches natural systems, Callicott cites a study (Nabhan et al., 1982) of two nearby communities, Quitovac (= Ki:to wak) in Mexico, where sixty-five bird species were found, and Quitobaquito Springs (or A'al Waipia) in Organ Pipe National Monument, with only thirty-two species. His conclusion is that biodiversity is greater in such rural communities than in wild natural systems.

But this is an unusual case; the locale is desert, where water is the limiting factor. If you artificially water the desert, some things will come in that could not live there before. Similarly, if you heat up the tundra, where cold is the limiting factor. We will not be surprised if there are more birds around feeders offering food, water, and shelter than elsewhere. But bird feeders actually may not be increasing biodiversity. We will have to look more closely at what is meant by biodiversity and what is going on in the two communities.

A species count, uninterpreted, doesn't tell us much. In more sophisticated analyses, ecologists use up to a dozen and a half indices of diversity (Magurran, 1988; Pielou, 1975). These include within habitat diversity (alpha diversity), between habitat diversity (beta diversity) and regional diversity (gamma diversity). They include diversity of processes and heterogeneity of fauna and flora, and on and on. If all you do is count species, there are more animal species in the Denver zoo than in the rest of Colorado. Never mind that the processes of nature are entirely gone. Callicott knows that and wants ecosystem health as well as diversity.

Whether there is ecosystem health at Quitovac is less clear. Callicott thinks so, but Nabhan et al. (1982) are more circumspect. Though the bird species count was always higher at Quitovac, by a heterogeneity diversity index the avifauna at Quitovac has no advantage over Organ Pipe. (This asks what proportions of the birds are of what species, such as grackles, doves, English sparrows, pigeons.) They also find that Quitovac is "not nearly as diverse in mammals," that ever-present dogs, horses, and cattle, limit the presence of wild animals. Deer and javelina drink and browse frequently at Organ Pipe, seldom at Quitovac. Even rodents are more abundant at Organ Pipe.

They also found more plant diversity at Quitovac, one hundred and thirty-nine species there against eighty at Organ Pipe. It is hardly surprising that if you add some irrigated cultivated fields and orchards, new plant species will appear, and some insects will follow, and birds in turn follow the seeds and insects. They also note that seventeen of these plant species were planted intentionally and that of the fifty-nine species in fields and orchards, many were adventitious species, weeds of disturbed sites. Many were the Old World waifs that, like dandelions, have tagged along after civilization willy-nilly. Is this being offered as a wise symbiosis of nature and culture? Is that enhanced richness in biodiversity?

A species count, offered as evidence of biodiversity without further ado, assumes that if we have the species, we have what we want conserved. But we may have the parts, even extra, artificial parts, but no longer the composition of the former whole. Maybe Quitovac is about as much "ersatz world" (p. 243) as idyllic, humanized ecosystem health with optimized biodiversity. Even a new whole would not have the integrity of the once wild ecosystem. We can and ought to have rural nature, and we will be glad to have rural nature with a high bird count. But we can have a rural nature with a high species count and not have anywhere on the landscape the radical values of wild, pristine nature. That loss would not be compensated for by the stepped-up species count in agriculturally disturbed lands. In wilderness, we value the interactions as a fundamental component of biodiversity.

The predation pressures, for instance, are never the same on agricultural lands as they are on wildlands. Agriculture means an increase of disturbed soil, with most of these disturbances different in kind from those in wild nature. Different kinds of things grow in such soil, more r-selected species, fewer k-selected ones. Underground, the fungi and soil bacteria are different, so the decomposition regime is different, and that results in differences above ground. The energy flow and the nutrient cycling is different. It is often the case that the highest number of species are found in intermediately disturbed environments, but that considers species counts and alpha diversity alone. If all the environments are kept intermediately disturbed, we lose beta and gamma diversity. Indeed over the landscape as a whole, we lose even species counts, since in disturbed environments the sensitive

species go extinct. We are not likely to retain the large carnivores.

Both these oases are water magnets for migrant birds. Quitovac, with its cultivated fields and orchards, draws more migrants into close proximity. Muddy shorelines attract some waders less frequent at Quitobaquito. All this tells us little about whether these migrating birds are safe in their wintering or breeding grounds. In fact, Central American agricultural development, destroying winter grounds, threatens many bird species. Quitovac may draw some breeding species that cannot survive at Quitobaquito or in the unwatered desert. But there are no bird species flourishing in Quitovac that were not flourishing already in their native habitats elsewhere. It is hard to think that much important bird conservation is going on there.

Quitobaquito Springs, far from being depauperate in birds, is one of the best-known sites for observing birds in that region of Arizona, and birders go there from all over the United States to see the migrants and to find the desert species. The oasis is but a small area. Organ Pipe Monument is designated to preserve many other kinds of habitats. Enlarging to consider beta and gamma diversity, the official Monument checklist contains 277 bird species, of which 63 are known to breed in various habitats there, and five more believed to breed as well (Groschupf et al., 1987). Only three are non-native. Even if the diversity at Quitovac is greater, the diversity preserved by having both a rural area and a wilderness is higher than if we had two rural areas.

Also, whatever the possibilities, we do not want to forget the probabilities, which are that this (allegedly) idyllic picture will be upset by development pressures. Quitovac had been used for centuries, steadily but not intensively. When the comparisons here were made, only two or three dozen persons were using the area. The study concentrates on only a five hectare site, and the natives had only used ten percent of this for cultivated fields and orchards. Before the study could be completed, 125 hectares there were bulldozed to be used for intensive agriculture, including most of the study area, with disastrous results (Nabhan et al., 1982). There may be fewer species at Organ Pipe, but such a disaster is not likely to occur, owing to its sanctuary designation.

WILDERNESS AND CHANGE

Another alleged flaw in the concept of wilderness is that its advocates do not know the fourth dimension, time. That is a strange charge; my experience has been just the opposite. In wilderness, the day changes from dawn to dusk, the seasons pass, plants grow, animals are born, grow up, and age. Rivers flow, winds blow, even the rocks erode; change is pervasive. Indeed, wilderness is that environment in which one is most likely to experience geological time. Try a raft trip through the Grand Canyon.

On the scale of deep time, some processes continue on and on,

so that the perennial givens—wind and rain, soil and photosynthesis, life and death and life renewed—can seem almost forever. Species survive for millions of years; individuals are ephemeral. Life persists in the midst of its perpetual perishing. Mountains are reliably there generation after generation. The water cycles back, always moving. In wilderness, time mixes with eternity; that is one reason we value it so highly.

Callicott writes as if wilderness advocates had studied ecology and never heard of evolution. But they know that evolution is the control of development by ecology, and what they value is precisely natural history. They do not object to natural changes. They may not even object to artificial changes in rural landscapes. But, since they know the difference between nature and culture, they know that cultural changes may be quite out of kilter with natural changes. Leopold uses the word "stability" when he is writing in the time frame of land-use planning. On that scale, nature typically does have a reliable stability, and farmers do well to figure in the perennial givens.

In an evolutionary time frame, Leopold knows that relative stability mixes with change. "Paleontology offers abundant evidence that wilderness maintained itself for immensely long periods; that its component species were rarely lost, and neither did they get out of hand; that weather and water built soil as fast or faster than it was carried away." That is why "wilderness ... assumes unexpected importance as a laboratory for the study of land health" (Leopold, 1968, p. 196). Wilderness is the original sustainable development.

With natural processes, "protect" is perhaps a better word than either "preserve" or "conserve." Wilderness advocates do not seek to prevent natural change. There is nothing illusory, however, about appreciating today in wilderness processes that have a primeval character. There, the natural processes of 1992 do not differ much from those of 1492, half a millennium earlier. We may enjoy that perennial character, constancy in change, in contrast with the rapid pace of cultural changes, seldom as dramatic as those on the American landscape of the last few centuries.

A management program in the U. S. Forest Service seeks to evaluate the "limits of acceptable change." This emphasis worries about the rapid pace of cultural change as this contrasts with the natural pace on landscapes. Cordell and Reed (1990) are trying to decide the limits of acceptable humanly-introduced changes, artificial changes, since these are of such radically different kind and pace that they disrupt the processes of wilderness. They do not oppose natural changes. At this point, we have an example of how and why environmental professionals will make disastrous decisions, if confused by what is and is not natural. Callicott warns them that they do have to worry about "accelerating rates of environmental change" (p. 242). No one can begin to understand these rates of changes if the changes are thought of as being introduced by a species that is "entirely natural."

When we designate a desert wilderness in Nevada, there really isn't any problem deciding that mustangs are feral animals in contrast with desert bighorns, which are indigenous. There might have been ancestral horses in Paleolithic times in the American West, but they went extinct naturally. The present mustangs came from animals that the Europeans brought over in ships, originally from the plains of Siberia. Bighorns are what they are where they are by natural selection. Mustangs are not so. There is nothing conceptually problematic about that—unless one has never gotten clearly in mind the difference between nature and culture in the first place.

ABORIGINAL PEOPLES AND WILDERNESS

What of the argument that we cannot have any wilderness, because there is none to be had? This is a much stronger claim than that there is no real wilderness left on the American landscape after the European cultural invasion. Even the aboriginals had already extinguished wilderness. Now we have a somewhat different account of the human presence from that earlier advocated. The claim is no longer that the Indians were just another wild species, "entirely natural," but that they actively managed the landscape, so dramatically altering it that there was no wilderness even when Columbus arrived in 1492. It is ethnocentric to think otherwise. This is because we Caucasians exaggerate our own power to modify the landscape and diminish their power. This is a judgment based on prejudice, not on facts.

How much did the American Indians modify the landscape? That is an empirical question in anthropology and ecology. We do not disagree that where there was Indian culture, this altered the locales in which they resided, so that these locales were not wilderness in the pure sense. In that respect, Indian culture is not different in kind from the white man's culture. What we need to know is the degree. Had the Indians, when the white man arrived, already transformed the pre-Indian wilderness beyond the range of its spontaneous self-restoration?

Callicott concedes (pp. 241-242), rightly, that most of what has been presently designated as wilderness was infrequently used by the aborigines, since it is high, rough, or arid. We have no reason to think that in such areas the aboriginal modifications are irreversible. Were the more temperate regions modified so extensively and irreversibly that so little naturalness remains as to make wilderness designation an illusion? Callicott has "no doubt that most New World ecosystems were in robust health" (p. 244). That suggests that they were not past self-regeneration.

The American Indians on forested lands had little agriculture; what agriculture they had tended to reset succession, and, when agriculture ceases, the subsequent forest regeneration will not be particularly unnatural. The Indian technology for larger landscape modification was bow and arrow, spear, and fire. The only one that extensively modifies landscapes is

fire. Fire is—we have learned well by now—also quite natural. Fire suppression is unnatural, but no one argues that the Indians used that as a management tool, nor did they have much capacity for fire suppression. The argument is that they deliberately set fires. Does this make their fires radically different from natural fires? It does in terms of the source of ignition; the one is a result of environmental policy deliberation, the other of a lightning bolt.

But every student of fire behavior knows that on the scale of regional forest ecosystems, the source of ignition is not a particularly critical factor. The question is whether the forest is ready to burn, whether there is sufficient ground fuel to sustain the fire, whether the trees are diseased, how much duff there is, and so on. If conditions are not right, it will be difficult to get the fire going and it will burn out soon. If conditions are right, a human can start a regional fire this year. If some human does not, lightning will start it next year, or the year after that. On a typical summer day, the states of Arizona and New Mexico are each hit by several thousand bolts of lightning, mostly in the higher, forested regions. Doubtless the Indians started some fires too, but it is hard to think that their fires so dramatically and irreversibly altered the natural fire regime in the Southwest that meaningful wilderness designation is impossible today.

We do not want to be ethnocentric, but neither do we want to be naïve about the technological prowess of the American Indian cultures. They had no motors, indeed no wheels, no domestic animals, no horses (before the Spanish came), no beasts of burden. The Indians had a hard time getting so simple a thing as hot water. They had to heat stones and drop them in skins or tightly woven baskets. They lived on the landscape with foot and muscle, and in that sense, though they had complex cultures, they had culture with very reduced alterative power. Even in European cultures, in recent centuries the power of civilization to redo the world has accelerated logarithmically.

In Third World nations, perhaps areas that seem "natural" now are often the result of millennia of human modifications through fire, hunting, shifting cultivation, and selective planting and removal of species. This will have to be examined on a case-by-case basis, and we cannot prejudge the answers. We do not know yet how intensively the vast Brazilian rainforests were managed and whether no wilderness designation there is ecologically practicable, even if we desired it. Nor do wilderness enthusiasts advocate that such peoples be removed to accomplish this, were it possible. What is protested is modern forms of development. Extractive reserves may be an answer, but extractive reserves for latex sold in world markets and manufactured into rubber products can hardly be considered aboriginal wisdom.

Sometimes we will have to make do with what wilderness remains in the nooks and crannies of civilization. Meanwhile, where wilderness designation is possible and where

there is an exploding population, what should we do? No one objects to trying to direct that explosion into more harmonious forms of human-nature encounter. But constraining an explosion takes some strong measures. One of these ought to be the designation of wilderness.

Perhaps the American Indians did not have enough contrast between their culture and the nature that surrounded them to produce the wilderness idea. It was not an idea that, within their limited power to remake nature, could occur to them. If you have only foot, muscle, bows, arrows, and fire, you do not think much about wilderness conservation. But we, in the twentieth century, do have the wilderness idea; it has crystallized with the possibility, indeed the impending threat, of destroying the last acre of primeval wilderness. It also has crystallized with our deepening scientific knowledge of how wild nature operates, of DNA, genes, and natural selection, and how dramatically different in kind, pace, and power the processes of culture can be. The Indians knew little of this; they lived still in an animistic, enchanted world.

And we need the wilderness idea desperately. When you have bulldozers that already have blacktopped more acreage than remains pristine, you can and ought to begin to think about wilderness. Such an idea, when it comes, is primitive in one sense: it preserves primeval nature, as much as it can. But it is morally advanced in another sense: it sees the intrinsic value of nature, apart from humans.

Ought implies can; the Indians could not, so they never thought much about the ought. We in the twentieth century can, and we must think about the ought. When we designate wilderness, we are not lapsing into some romantic atavism, reactionary and nostalgic to escape culture. We are breaking through culture to discover, nonanthropocentrically, that fauna and flora can count in their own right (an idea that Indians also might have shared). We realize that ecosystems sometimes can be so respected that humans only visit and do not remain (an idea that the Indians did not need or achieve). A "can" has appeared that has generated a new "ought."

Even some modern American Indians concur. In western Montana, the Salish and Kootenai tribes have set aside 93,000 acres of their reservation as the Mission Mountains Tribal Wilderness; in addition, they have designated the South Fork of the Jocko Primitive Area. In both areas, the Indian too is "a visitor who does not remain"; they want these areas "to be affected primarily by the forces of nature with the imprint of man's work substantially unnoticeable" (*Tribal Wilderness Ordinance*, 1982). Indeed, in deference to the grizzly bears, in the summer season, the Indians do not permit any humans at all to visit 10,000 acres that are prime grizzly habitat. In both areas, they can claim even more restrictive environmental regulation on what people can do there than in the white man's wilderness. What, when, and how they hunt is an example.

Not a word of the above discussion disparages aboriginal Indian culture. To the contrary, that they survived with the bare skills they had is a credit to their endurance, courage, resolution, and wisdom. A wilderness enthusiast, if he or she has spent much time in the woods armed with only muscle and a few belongings in a backpack, is in an excellent position to appreciate the aboriginal skills.

SUSTAINABLE DEVELOPMENT AND WILDERNESS

Finding out how to remake civilization so that nature is conserved in the midst of sustainable development is indeed a more difficult and important task than saving wild remnants. Little wilderness can be safe unless the sustainable development problem is solved also. I can only endorse Callicott's desire to conserve nature in the midst of human culture. "Human economic activities should at least be compatible with the ecological health of the environments in which they occur" (p. 239). No party to the debate contests that. But this does not mean that wilderness ought not to be saved for what it is in itself.

"The farmer as a conservationist" is quite a good thing, and Leopold does well to hope that "land does well for its owner, and the owner does well by his land"; perhaps where a farmer begins, as did Leopold, with lands long abused, "both end up better by reason of their partnership." In that context, "conservation is a state of harmony between men and land" (p. 238). But none of that asks whether there also should be wilderness. Leopold tells us what he thinks about that after his trip to Germany. There was "something lacking.... I did not hope to find in Germany anything resembling the great 'wilderness areas' which we dream about and talk about." That was too much to hope; he could dream that only in America. But he did hope to find "a certain quality [—wildness—] which should be, but is not found" in the rural landscape, and, alas, not even that was there (Leopold, quoted by Callicott, p. 238). "In Europe, where wilderness now has retreated to the Carpathians and Siberia, every thinking conservationist bemoans its loss" (Leopold, [1949] 1968, p. 200). That loss would not be restored if every farmer were a restoration ecologist. All that Leopold says about sustainable development is true, but there is no implication that wilderness cannot or ought not to be saved. Affirming sustainable development is not to deny wilderness.

MONASTIC WILDERNESS AND CIVILIZED COMPLACENCY

Nor is affirming wilderness to deny sustainable development. Callicott alleges, "Implicit in the most passionate pleas for wilderness preservation is a complacency about what passes for civilization" (p. 236). Not so. I cannot name a single wilderness advocate who cherishes wilderness "as an alibi for the lack of private reform," any who "salve their consciences" by pointing to "the few odds and ends" of wilderness and thus "avoid facing up to the fact that the ways and means of industrial civilization lie at the root of the current global

environmental crisis" (p. 239). The charge is flamboyant; the content runs hollow. Wilderness advocates want wilderness and they also want, passionately, to "re-envision civilization" (p. 236) so that it is in harmony with the nature that humans do modify and inhabit. There is no tension between these ideas in Leopold, nor in any of the other passionate advocates of wilderness that Callicott cites, nor in any with whom I am familiar.

The contrast of monastic sanctuaries with the wicked everyday world risks a flawed analogy. Unless we are careful, we will make a category mistake, because both monastery and lay world are in the domain of culture, while wilderness is a radically different domain. Monastery sets an ideal unattainable in the real civil world (if we must think of it that way), but both worlds are human, both moral. We are judging human behavior in both places, concerned with how far it can be godly. By contrast, the wilderness world is neither moral nor human; the values protected there are of a different order. We are judging evolutionary achievements and ecological stability, integrity, beauty—not censuring or praising human behavior.

Confusion about nature and culture is getting us into trouble again. We are only going to get confused if we think that the issue of whether there should be monasteries is conceptually parallel to the issue of whether there should be wilderness. The conservation of value in the one is by the cultural transmission of a social heritage, including a moral and religious heritage, to which the monastery was devoted. The conservation of value in the other is genetic, in genes subject to natural selection for survival value and adapted fit. There is something godly in the wilderness too, or at least a creativity that is religiously valuable, but the contrast between the righteous and the wicked is not helpful here. The sanctuary we want is a world untrammelled by man, a world left to its own autonomous creativity, not an island of saintliness in the midst of sinners.

We do not want the whole Earth without civilization, for we believe that humans belong on Earth; Earth is not whole without humans and their civilization, without the political animal building his *polis* (Socrates), without peoples inheriting their promised lands (as the Hebrews envisioned). Civilization is a broken affair, and in the long struggle to make and keep life human, moral, even godly, perhaps there should be islands, sanctuaries, of moral goodness within a civilization often sordid enough. But that is a different issue from whether, when we build our civilizations for better or worse, we also want to protect where and as we can those nonhuman values in wild nature that preceded and yet surround us. An Earth civilized on every acre would not be whole either, for a whole domain of value—wild spontaneous nature—would have vanished from this majestic home planet.

INTRINSIC WILDERNESS VALUES

I fear that we are seeing in Callicott's revisiting wilderness

the outplay of a philosophy that does not think, fundamentally, that nature is of value in itself. Such a philosophy, though it may protest to the contrary, really cannot value nature for itself. All value in nature is by human projection; it is anthropogenic, generated by humans, though sometimes not anthropocentric, centered on humans. Callicott has made it clear that all so-called intrinsic value in nature is "grounded in human feelings" and "projected" onto the natural object that "excites" the value. "Intrinsic value ultimately depends upon human valuers." "Value depends upon human sentiments" (Callicott, 1984, p. 305).

He explains, "The source of all value is human consciousness, but it by no means follows that the locus of all value is consciousness itself.... An intrinsically valuable thing on this reading is valuable for its own sake, for itself, but it is not valuable in itself, i.e., completely independently of any consciousness, since no value can in principle... be altogether independent of a valuing consciousness.... Value is, as it were, projected onto natural objects or events by the subjective feelings of observers. If all consciousness were annihilated at a stroke, there would be no good and evil, no beauty and ugliness, no right and wrong; only impassive phenomena would remain." This, Callicott says, is a "truncated sense" of value where "'intrinsic value' retains only half its traditional meaning" (Callicott, 1986, pp. 142-43, p. 156, and p. 143).

Talk about dichotomies! Only humans produce value; wild nature is valueless without humans. All it has without humans is the potential to be evaluated by humans, who, if and when they appear, may incline, sometimes, to value nature in noninstrumental ways. "Nonhuman species... may not be valuable in themselves, but they may certainly be valued for themselves.... Value is, to be sure, humanly conferred, but not necessary homocentric" (Callicott, 1986, p. 160). The language of valuing nature for itself may be used, but it is misleading; value is always and only relational, with humans one of the relata. Nature in itself (a wilderness, for example) is without value. There is no genesis of wild value by nature on its own. Such a philosophy can value nature only in association with human habitation. But that—not some elitist wilderness conservation for spiritual meditation—is the view that many of us want to reject as "aristocratic bias and class privilege" (p. 237).

Sustainable development is, let's face it, irremediably anthropocentric. That is what we must have most places, and humans too have their worthy values. But must we have it everywhere? Must we have more of it and less wilderness? Maybe the value theory here is where the arrogance lies, not in some alleged ethnocentrism or misunderstood doctrine of the dominion of man.

A truncated value theory is giving us a truncated account of biodiversity. Callicott hardly wants wildernesses as "sanctuaries," only as "refugia" (p. 236). A refugia is a seedbed from which other areas get restocked. That is one good reason for

wilderness conservation, but we do not want wilderness simply as a place from which the game on our rural lands can be restocked, or even, if we have a more ample vision of wildlife recreation, from which the wildlife that yet persists on the domesticated landscape can be resupplied steadily. Wildernesses are not hatcheries for rural or urban wildlife. Nor are they just "laboratories" (p. 238) for baseline data for sound scientific management. Nor are they raw materials on which we can work our symbiotic enhancements. Nor are they places that can excite us into projecting truncated values onto them. Some of these are sometimes good reasons for conserving wilderness. Leopold sums them up as "the cultural value of wilderness" (Leopold [1949] 1968, p. 200). But they are not the best reasons.

LEOPOLD AND WILDERNESS

Leopold pleads in the "Upshot," in his last book in the penultimate essay, entitled "Wilderness": "Wilderness was an adversary to the pioneer. But to the laborer in repose, able for the moment to cast a philosophical eye on his world, that same raw stuff is something to be loved and cherished, because it gives definition and meaning to his life" (Leopold, [1949] 1968, p. 188). He does not mean that wilderness is only a resource for personal development, though it is that. He means that we never know who we are or where we are until we know and respect our wild origins and our wild neighbors on this home planet. We never get our values straight until we value wilderness appropriately. The definition of the human kinds of values is incomplete until we have this larger vision of natural values.

Concluding his appeal for "raw wilderness" (p. 201), Leopold turns to the "Land Ethic," "The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land.... A land ethic of course cannot prevent the alteration, management, and use of these 'resources,' but it does affirm their right to continued existence, and, at least in spots, their continued existence in a natural state." We may certainly assert that the founder of the Wilderness Society believed that wilderness conservation is essential in this right to continued existence in a natural state.

"I am asserting that those who love the wilderness should not be wholly deprived of it, that while the reduction of wilderness has been a good thing, its extermination would be a very bad one, and that the conservation of wilderness is the most urgent and difficult of all the tasks that confront us" (Leopold, quoted in Meine, 1988, p. 245). We must take it as anomalous (else it would be amusing or even tragic) to see Leopold's principal philosophical interpreter, himself a foremost environmental philosopher who elsewhere has said many wise things, now trying to revisit the wilderness idea and de-emphasize it in Leopold.

Just before Leopold plunges into his passionate plea for the

land ethic, he calls for "wilderness-minded men scattered through all the conservation bureaus." "A militant minority of wilderness-minded citizens must be on watch throughout the nation, and available for action in a pinch" (Leopold [1949], 1968, p. 200). Alas! His trumpet call is replaced by an uncertain sound. Robert Marshall saluted Leopold as "The Commanding General of the Wilderness Battle" (cited in Meine, 1988, p. 248). How dismayed he would be by this dissension within his ranks.

On Earth, man is not a visitor who does not remain; this is our home planet and we belong here. Leopold speaks of man as both "plain citizen" and as "king." Humans too have an ecology, and we are permitted interference with, and rearrangement of, nature's spontaneous course; otherwise there is no culture. When we do this there ought to be some rational showing that the alteration is enriching, that natural values are sacrificed for greater cultural ones. We ought to make such development sustainable. But there are, and should be, places on Earth where the nonhuman community of life is untrammelled by man, where we only visit and spontaneous nature remains. If Callicott has his way, revisiting wilderness, there soon will be less and less wilderness to visit at all.

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