The Value of Wilderness

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In this paper I explore various grounds on which wilderness can be regarded as something which we should value, and I draw attention to the problems of resolving conflict which are generated by these diverse grounds. I conclude that our attitudes toward nature are partially determined by a background of metaphysical assumptions which derive in particular from the philosophy of Descartes. These metaphysical preconceptions lead to the misconception that various alternative views about the natural environment are mystical or occult. Thus, an alternative non-Cartesian mode of conception involving holistic or systemic modes of thought is required in order to develop a satisfactory basis for our attitude toward the natural world.

Wilderness is the raw material out of which man has hammered the artifact called civilization.

Aldo Leopold

The framework which I examine is the framework of Western attitudes toward our natural environment, and wilderness in particular. The philosophical task to which I shall address myself is an exploration of attitudes toward wilderness, especially the sorts of justification to which we might legitimately appeal for the preservation of wilderness: what grounds can we advance in support of the claim that wilderness is something which we should value?

There are two different ways of appraising something as valuable. It may be that the thing in question is good or valuable for the sake of something which we hold to be valuable. In this case the thing is not considered to be good in itself; value in this sense is ascribed in virtue of the thing’s being a means to some valued end, and not as an end in itself. Such values are standardly designated instrumental values. Not everything which we hold to be good or valuable can be good for the sake of something else: our values must ultimately be grounded in something which is held to be good or valuable in itself. Such things are said to be intrinsically valuable. As a matter of historical fact, those things which have been held to be intrinsically valuable, within our Western traditions of thought, have nearly always been taken to be states or condi-

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1 Aldo Leopold. A Sand County Almanac (New York: Oxford University Press, 1949), p. 188.
tions of persons, e.g., happiness, pleasure, knowledge, or self-realization, to name but a few.

It follows from this that a very central assumption of Western moral thought is that value can be ascribed to the nonhuman world only insofar as it is good for the sake of the well-being of human beings. Our entire attitude toward the natural environment, therefore, has a decidedly anthropocentric bias, and this fact is reflected in the sorts of justification which are standardly provided for the preservation of the natural environment.

A number of thinkers, however, are becoming increasingly persuaded that our anthropocentric morality is in fact inadequate to provide a satisfactory basis for a moral philosophy of ecological obligation. It is for this reason that we hear not infrequently the claim that we need a "new morality." A new moral framework—that is, a network of recognized obligations and duties—is not, however, something that can be casually conjured up in order to satisfy some vaguely felt need. The task of developing a sound biologically based moral philosophy, a philosophy which is not anthropocentrically based, and which provides a satisfactory justification for ecological obligation and concern, is, I think, one of the most urgent tasks confronting moral philosophers at the present. It will entail a radical reworking of accepted attitudes—attitudes which we currently accept as "self-evident"—and this is not something which can emerge suddenly. Indeed, I think the seminal work remains largely to be done, though I suggest below the broad outline which an environmentally sound moral philosophy is likely to take.

In the absence of a comprehensive and convincing ecologically based morality we naturally fall back on instrumental justifications for concern for our natural surroundings, and for preserving wilderness areas and animal species. We can, I think, detect at least four main lines of instrumental justification for the preservation of wilderness. By wilderness I understand any reasonably large tract of the Earth, together with its plant and animal communities, which is substantially unmodified by humans and in particular by human technology. The natural contrast to wilderness and nature is an artificial or domesticated environment. The fact that there are borderline cases which are difficult to classify does not, of course, vitiate this distinction.

The first attitude toward wilderness espoused by conservationists to which I wish to draw attention is what I shall call the "cathedral" view. This is the view that wilderness areas provide a vital opportunity for spiritual revival, moral regeneration, and aesthetic delight. The enjoyment of wilderness is

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2 Other cultures have certainly included the idea that nature should be valued for its own sake in their moral codes, e.g., the American Indians (cf. Chief Seattle's letter to President Franklin Pierce of 1854, reprinted in The Canberra Times, 5 July 1966, p. 9), the Chinese (cf. Joseph Needham, "History and Human Values," in H. and S. Rose, eds. The Radicalisation of Science [London: Macmillan, 1976], pp. 90-117), and the Australian Aborigines (cf. W. E. H. Stanner, Aboriginal Man in Australia [Sydney: Angus and Robertson, 1965], pp. 207-237)
often compared in this respect with religious or mystical experience. Preservation of magnificent wilderness areas for those who subscribe to this view is essential for human well-being, and its destruction is conceived as something akin to an act of vandalism, perhaps comparable to—some may regard it as more serious than—the destruction of a magnificent and moving human edifice, such as the Parthenon, the Taj Mahal, or the Palace of Versailles.

Insofar as the "cathedral" view holds that value derives solely from human satisfactions gained from its contemplation it is clearly an instrumentalist attitude. It does, however, frequently approach an intrinsic value attitude, insofar as the feeling arises that there is importance in the fact that it is there to be contemplated, whether or not anyone actually takes advantage of this fact. Suppose for example, that some wilderness was so precariously balanced that any human intervention or contact would inevitably bring about its destruction. Those who maintained that the area should, nevertheless, be preserved, unexperienced and unenjoyed, would certainly be ascribing to it an intrinsic value.

The "cathedral" view with respect to wilderness in fact is a fairly recent innovation in Western thought. The predominant Graeco-Christian attitude, which generally speaking was the predominant Western attitude prior to eighteenth- and nineteenth-century romanticism, had been to view wilderness as threatening or alarming, an attitude still reflected in the figurative uses of the expression wilderness, clearly connoting a degenerate state to be avoided. Christianity, in general, has enjoined "the transformation of wilderness, those dreaded haunts of demons, the ancient nature-gods, into farm and pasture," that is, to a domesticated environment.

The second instrumental justification of the value of wilderness is what we might call the "laboratory" argument. This is the argument that wilderness areas provide vital subject matter for scientific inquiry which provides us with an understanding of the intricate interdependencies of biological systems, their modes of change and development, their energy cycles, and the source of their stabilities. If we are to understand our own biological dependencies, we require natural systems as a norm, to inform us of the biological laws which we transgress at our peril.

The third instrumentalist justification is the "silo" argument which points out that one excellent reason for preserving reasonable areas of the natural environment intact is that we thereby preserve a stockpile of genetic diversity, which it is certainly prudent to maintain as a backup in case something should suddenly go wrong with the simplified biological systems which, in general,
constitute agriculture. Further, there is the related point that there is no way of anticipating our future needs, or the undiscovered applications of apparently useless plants, which might turn out to be, for example, the source of some pharmacologically valuable drug—a cure, say, for leukemia. This might be called, perhaps, the “rare herb” argument, and it provides another persuasive instrumental justification for the preservation of wilderness.

The final instrumental justification which I think should be mentioned is the “gymnasium” argument, which regards the preservation of wilderness as important for athletic or recreational activities.

An obvious problem which arises from these instrumental arguments is that the various activities which they seek to justify are not always possible to reconcile with one another. The interests of the wilderness lover who subscribes to the “cathedral” view are not always reconcilable with those of the ordinary vacationist. Still more obvious is the conflict between the recreational use of wilderness and the interests of the miner, the farmer, and the timber merchant.

The conflict of interest which we encounter here is one which it is natural to try and settle through the economic calculus of cost-benefit considerations. So long as the worth of natural systems is believed to depend entirely on instrumental values, it is natural to suppose that we can sort out the conflict of interests within an objective frame of reference, by estimating the human satisfactions to be gained from the preservation of wilderness, and by weighing these against the satisfactions which are to be gained from those activities which may lead to its substantial modification, domestication, and possibly even, destruction.

Many thinkers are liable to encounter here a feeling of resistance to the suggestion that we can apply purely economic considerations to settle such conflicts of interest. The assumption behind economic patterns of thought, which underlie policy formulation and planning, is that the values which we attach to natural systems and to productive activities are commensurable; and this is an assumption which may be called into question. It is not simply a question of the difficulty of quantifying what value should be attached to the preservation of natural systems. The feeling is more that economic considerations are simply out of place. This feeling is one which is often too lightly dismissed by tough-minded economists as being obscurely mystical or superstitious; but it is a view worth examining. What it amounts to, I suggest, is the belief that there is something morally objectionable in the destruction of natural systems, or at least in their wholesale elimination, and this is precisely the belief that natural systems, or economically “useless” species do possess an intrinsic value. That is, it is an attempt to articulate the rejection of the anthropocentric view that all value, ultimately, resides in human interests and concerns. But it is a difficult matter to try and provide justification for such attitudes, and this is, for reasons which are deeply bound up with the
problems of resolving basic value conflict, a problem which I have discussed elsewhere.\textsuperscript{5}

The belief that all values are commensurable, so that there is no problem \textit{in principle} in providing a satisfactory resolution of value conflict, involves the assumption that the quantitative social sciences, in particular economics, can provide an \textit{objective} frame of reference within which all conflicts of interest can be satisfactorily resolved. We should, however, note that in the application of cost-benefit analyses there is an inevitable bias in the sorts of values that figure in the calculation, viz., a bias toward those considerations which are readily quantifiable, and toward those interests which will be staunchly defended. This is a fairly trivial point, but it is one which has substantial consequences, for there are at least three categories of values and interests which are liable to be inadequately considered, or discounted altogether.\textsuperscript{6} First, there are the interests of those who are too widely distributed spatially, or too incrementally affected over time, to be strongly supported by any single advocate. Second, there are the interests of persons not yet existing, viz., future generations, who are clearly liable to be affected by present policy, but who are clearly not in a position to press any claims. Third, there are interests not associated with humans at all, such as the "rights" of wild animals.\textsuperscript{7}

This last consideration, in particular, is apt to impress many as ludicrous, as quite simply "unthinkable." It is an unquestioned axiom of our present code of ethics that the class of individuals to which we have obligations is the class of humans. The whole apparatus of rights and duties is in fact based on an ideal of reciprocal contractual obligations, and in terms of this model the class of individuals to whom we may stand in moral relations—i.e., those with whom we recognize a network of rights, duties, and obligations—is the class of humans. A major aspect of a satisfactory ethic of ecological obligation and concern will be to challenge this central anthropocentric assumption. I return to this point below.

Even restricting our attention to the class of human preference havers, however, we should be wary of dismissing as simply inadmissable the interests of future generations. The claims of posterity tend to be excluded from our policy deliberations not, I suspect, because we believe that future genera-


\textsuperscript{7} I should mention that I am a skeptic about "rights": it seems to me that talk about rights is always eliminable in favor of talk about legitimate claims for considerations, and obligations to respect those claims. Rights-talk does, however, have useful rhetorical effect in exhorting people to recognize claims. The reason for this is that claims pressed in these terms perform the crucial trick of shifting the onus of proof. This is accomplished by the fact that a denial of aught appears to be a more positive and deliberate act than merely refusing to acknowledge an obligation.
tions will be unaffected by our policies, but because we lack any clear idea as to how to set about attaching weight to their interests. This is an instance of the familiar problem of "the dwarving of soft variables." In settling conflicts of interest, any consideration which cannot be precisely quantified tends to be given little weight, or more likely, left out of the equation altogether: "If you can't measure it, it doesn't exist." The result of ignoring soft variables is a spurious appearance of completeness and precision, but in eliminating all soft variables from our cost-benefit calculations, the conclusion is decidedly biased. If, as seems plausible, it is in principle impossible to do justice to soft variables, such as the interests of posterity, it may be that we have to abandon the idea that the economic models employed in cost-benefit calculations are universally applicable for sorting out all conflicts of interest. It may be necessary to abandon the economic calculus as the universal model for rational deliberation.

Another category of soft variable which tends to be discounted from policy deliberations is that which concerns economically unimportant species of animals or plants. A familiar subterfuge which we frequently encounter is the attempt to invest such species with spurious economic value, as illustrated in the rare herb argument. A typical example of this, cited by Leopold, is the reaction of ornithologists to the threatened disappearance of certain species of songbirds: they at once came forward with some distinctly shaky evidence that they played an essential role in the control of insects. The dominance of economic modes of thinking is again obvious: the evidence has to be economic in order to be acceptable. This exemplifies the way in which we turn to instrumentalist justifications for the maintenance of biotic diversity.

The alternative to such instrumentalist justifications, the alternative which Leopold advocated with great insight and eloquence, is to widen the boundary of the moral community to include animals, plants, the soil, or collectively the land. This involves a radical shift in our conception of nature, so that land is recognized not simply as property, to be dealt with or disposed of as a matter of expediency: land in Leopold's view is not a commodity which belongs to us, but a community to which we belong. This change in conception is far-reaching and profound. It involves a shift in our metaphysical conception of nature—that is, a change in what sort of thing we take our natural

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9 Of course, in practice cost-benefit considerations do operate within deontic constraints, and we do not accept economics unrestrictedly as providing the model for rational deliberation. We would not accept exploitative child labor, for example, as a legitimate mode of production, no matter how favorable the economics. This is not just because we attach too high a cost to this form of labor: it is just unthinkable.


surroundings to be. This is a point which I would like to elaborate, albeit sketchily.

The predominant Western conception of nature is exemplified in—and to no small extent is a consequence of—the philosophy of Descartes, in which nature is viewed as something separate and apart, to be transformed and controlled at will. Descartes divided the world into conscious thinking substances—minds—and extended, mechanically arranged substances—the rest of nature. It is true that we find in Western thought alternatives to the Cartesian metaphysical conception of nature—the views of Spinoza and Hegel might be mentioned in particular—but the predominant spirit, especially among scientists, has been Cartesian. These metaphysical views have become deeply embedded in Western thought, which has induced us to view the world through Cartesian spectacles. One of the triumphs of Descartes' mechanistic view of nature has been the elimination of occult qualities and forces from the explanation of natural events. The natural world is to be understood, in the Cartesian model, in purely mechanistic terms. An unfortunate consequence of the triumph, nevertheless, has been a persistent fear among some thinkers that the rejection of Cartesian metaphysics may lead to the reinstatement of occult and mystical views of nature.

An important result of Descartes' sharp ontological division of the world into active mental substances and inert material substances, has been the alienation of man from the natural world. Although protests have been raised against Cartesian metaphysics ever since its inception, it has exercised a deep influence on our attitudes toward nature. Descartes' mechanistic conception of nature naturally leads to the view that it is possible in principle to obtain complete mastery and technical control over the natural world. It is significant to recall that for Descartes the paradigm instance of a natural object was a lump of wax, the perfect exemplification of malleability. This conception of natural objects as wholly pliable and passive is clearly one which leaves no room for anything like a network of obligations.

A natural corollary of the mechanistic conception of nature, and integral to the Cartesian method of inquiry, is the role played by reductive thinking. In order to understand a complex system one should, on this view, break it into its component parts and examine them. The Cartesian method of inquiry is a natural correlate of Cartesian metaphysics, and is a leitmotif of our science-based technology.

It should be stressed that a rejection of the Cartesian attitude and its method of inquiry need not involve a regression to occult and mystical views about the "sacredness" of the natural world, and the abandoning of systematic rational inquiry. It must be conceded, however, that the rejection of the

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view that nature is an exploitable commodity has, unfortunately, frequently taken this form. This sort of romantic nature mysticism does provide a powerful exhortation for exercising restraint in our behavior to the natural world, but it carries with it a very clear danger. This is that while prohibiting destructive acts toward the natural world, it equally prohibits constructive acts: we surely cannot rationally adopt a complete "hands off" policy with respect to nature, on the basis of what looks like the extremely implausible—and highly cynical—a priori assumption that any attempt to modify our surroundings is bound to be for the worse.

It may, however, be that advocates of the "sacredness" of nature are attempting to do no more than articulate the idea that natural systems have their own intrinsic value, and adopt this manner of speaking as a convenient way of rejecting the dominant anthropocentric morality. If this is all that is being claimed, then I have no quarrel with it. And it may be inevitable that this mode of expression is adopted in the absence of a developed ecologically sound alternative morality. But I think we should be wary of this style of justification; what is needed, as Passmore has nicely expressed it, is not the spiritualizing of nature, but the naturalizing of man. This involves a shift from the piecemeal reductive conception of natural items to a holistic or systemic view in which we come to appreciate the symbiotic interdependencies of the natural world. On the holistic or total-field view, organisms—including man—are conceived as nodes in a biotic web of intrinsically related parts. That is, our understanding of biological organisms requires more than just an understanding of their structure and properties; we also have to attend seriously to their interrelations. Holistic or systemic thinking does not deny that organisms are complex physicochemical systems, but it affirms that the methods employed in establishing the high-level functional relationships expressed by physical laws are often of very limited importance in understanding the nature of biological systems. We may now be facing, in the terminology of Thomas Kuhn, a shift from a physical to a biological paradigm in our understanding of nature. This seems to me to be an important aspect of the rejection of Cartesian metaphysics.

The limitations of the physical paradigm have long been accepted in the study of human society, but the tendency has been to treat social behavior and human action as quite distinct from the operations of our natural surroundings. The inappropriateness of the physical paradigm for understanding human society seems to me to be quite correct; what is comparatively new is the post-Cartesian realization that the physical paradigm is of more limited application for our understanding of nature than was previously supposed.

13 Ibid., p. 260.
The holistic conception of the natural world contains, in my view, the possibility of extending the idea of community beyond human society. And in this way biological wisdom does, I think, carry implications for ethics. Just as Copernicus showed us that man does not occupy the physical center of the universe, Darwin and his successors have shown us that man occupies no biologically privileged position. We still have to assimilate the implications which this biological knowledge has for morality.

Can we regard man and the natural environment as constituting a community in any morally significant sense? Passmore, in particular, has claimed that this extended sense of community is entirely spurious. Leopold, on the other hand, found the biological extension of community entirely natural. If we regard a community as a collection of individuals who engage in cooperative behavior, Leopold's extension seems to me entirely legitimate. An ethic is no more than a code of conduct designed to ensure cooperative behavior among the members of a community. Such cooperative behavior is required to underpin the health of the community, in this biologically extended sense, health being understood as the biological capacity for self-renewal, and ill-health as the degeneration or loss of this capacity.

Man, of course, cannot be placed on "all fours" with his biologically fellow creatures in all respects. In particular, man is the only creature who can act as a full-fledged moral agent, i.e., an individual capable of exercising reflective rational choice on the basis of principles. What distinguishes man from his fellow creatures is not the capacity to act, but the fact that his actions are, to a great extent, free from programming. This capacity to modify our own behavior is closely bound up with the capacity to acquire knowledge of the natural world, a capacity which has enabled us, to an unprecedented extent, to manipulate the environment, and—especially in the recent past—to alter it rapidly, violently, and globally. Our hope must be that the capacity for knowledge, which has made ecologically hazardous activities possible, will lead to a more profound understanding of the delicate biological interdependencies which some of these actions now threaten, and thereby generate the wisdom for restraint.

To those who are skeptical of the possibility of extending moral principles, in the manner of Leopold, to include items treated heretofore as matters of expediency, it can be pointed out that extensions have, to a limited extent, already taken place. One clear—if partial—instance, is in the treatment of animals. It is now generally accepted, and this is a comparatively recent innovation, that we have at least a prima facie obligation not to treat animals cruelly or sadistically. And this certainly constitutes a shift in moral attitudes.

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17 Leopold, "The Land Ethic."
18 Ibid., p. 221.
If—as seems to be the case—cruelty to animals is accepted as intrinsically wrong, then there is at least one instance in which it is not a matter of moral indifference how we behave toward the nonhuman world.

More familiar perhaps are the moral revolutions which have occurred within the specific domain of human society—witness the progressive elimination of the “right” to racial, class, and sex exploitation. Each of these shifts involves the acceptance, on the part of some individuals, of new obligations, rights, and values which, to a previous generation, would have been considered unthinkable. The essential step in recognizing an enlarged community involves coming to see, feel, and understand what was previously perceived as alien and apart: it is the evolution of the capacity of empathy.

I have digressed a little into the history of ideas, stressing in particular the importance of the influence of Descartes. My justification for this excursion is that our present attitudes toward nature, and toward wilderness, are very largely the result of Descartes’ metaphysical conception of what nature is, and the concomitant conception which man has of himself. Our metaphysical assumptions are frequently extremely influential invisible persuaders: they determine the boundaries of what is thinkable. In rejecting the Cartesian conception the following related shifts in attitudes can, I think, be discerned.

1. A change from reductive convergent patterns of thought to divergent holistic patterns.
2. A shift from man’s conception of himself as the center of the biological world, to one in which he is conceived of as a component in a network of biological relations, a shift comparable to the Copernican discovery that man does not occupy the physical center of the universe.
3. An appreciation of the fact that in modifying biological systems we do not simply modify the properties of a substance, but alter a network of relations. This rejection of the Cartesian conception of nature as a collection of independent physical parts is summed up in the popular ecological maxim “it is impossible to do only one thing.”
4. A recognition that the processes of nature are independent and indifferent to human interests and concerns.
5. A recognition that biological systems are items which possess intrinsic value, in Kant’s terminology, that they are “ends in themselves.”

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21 Here I differ from the well-known claim of Lynn White (“The Historical Roots of Our Ecological Crisis,” *Science* 155 [1967]: 1203-7) that the Judeo-Christian tradition is predominantly responsible for the development of Western attitudes toward nature.
We can, however, provide—and it is important that we can provide—an answer to the question: “What is the use of wilderness?” We certainly ought to preserve and protect wilderness areas as gymnasiums, as laboratories, as stockpiles of genetic diversity, and as cathedrals. Each of these reasons provides a powerful and sufficient instrumental justification for their preservation. But note how the very posing of this question about the utility of wilderness reflects an anthropocentric system of values. From a genuinely ecocentric point of view the question “What is the use of wilderness?” would be as absurd as the question “What is the use of happiness?”

The philosophical task is to try to provide adequate justification, or at least clear the way for a scheme of values according to which concern and sympathy for our environment is immediate and natural, and the desirability of protecting and preserving wilderness self-evident. When once controversial propositions become platitudes, the philosophical task will have been successful.

I will conclude, nevertheless, on a deflationary note. It seems to me (at least much of the time) that the shift in attitudes which I think is required for promoting genuinely harmonious relations with nature is too drastic, too “unthinkable,” to be very persuasive for most people. If this is so, then it will be more expedient to justify the preservation of wilderness in terms of instrumentalist considerations: and I have argued that there are powerful arguments for preservation which can be derived from the purely anthropocentric considerations of human self-interest. I hope, however, that there will be some who feel that such anthropocentric considerations are not wholly satisfying, i.e., that they do not really do justice to our intuitions. But at a time when human rights are being treated in some quarters with a great deal of skepticism it is perhaps unrealistic to expect the rights of nonhumans to receive sympathetic attention. Perhaps, though, we should not be too abashed by this: extensions in ethics have seldom followed the path of political expediency.