

RESPECT FOR NATURE

A Theory of
Environmental Ethics

Paul W. Taylor

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S I X

COMPETING CLAIMS AND PRIORITY PRINCIPLES

1. The General Problem of Competing Claims

In this final chapter I consider the moral dilemmas that arise when human rights and values conflict with the good of nonhumans. Such conflicts occur whenever actions and policies that further human interests or fulfill human rights are detrimental to the well-being of organisms, species-populations, and life communities in the Earth's natural ecosystems. To put it another way, such conflicts occur whenever preserving and protecting the good of wild living things involves some cost in terms of human benefit. Clear examples are given in the following situations:

- Cutting down a woodland to build a medical center.
- Destroying a fresh water ecosystem in establishing a resort by the shore of a lake.
- Replacing a stretch of cactus desert with a suburban housing development.
- Filling and dredging a tidal wetland to construct a marina and yacht club.
- Bulldozing a meadow full of wildflowers to make place for a shopping mall.
- Removing the side of a mountain in a stripmining operation.
- Plowing up a prairie to plant fields of wheat and corn.

Taken in and of themselves, the various human activities and projects involved in these situations do not violate any

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rules of *human* ethics. All the interests motivating the activities are legitimate interests, and within the frame of reference set by the ethics of respect for persons, the liberty-rights of people entitle them to pursue those interests if they so wish. Assuming a just social system, the actions are morally permissible from the human perspective.

In each case, however, a price has to be paid by nature for the exercise of human rights. Direct and irreversible harm is being done to the Earth's wild living things. If we have adopted the attitude of respect for nature, these activities present fundamental moral dilemmas for us. To further human values in these situations is to bring about severe, permanent adverse effects on the good of beings that have the same inherent worth as humans. Why should their good be sacrificed? On the other hand, to preserve and protect their good means preventing humans from achieving their valued ends. From the moral point of view, which alternative should be chosen?

Such conflicts between humans and nonhumans cannot be avoided. Not only must humans make use of the natural environment and thereby compete with animals and plants that might also need that environment as their habitat and food source, but humans must also directly consume some nonhumans in order to survive. (Perhaps only cultivated plants could be used as food, but some wildlife would have to be destroyed in making way for the required farms and greenhouses.) Furthermore, from the human standpoint those species of animal and plant life that are harmful to our survival and health must be controlled or gotten rid of. Every society that has an established culture interferes with and makes use of some parts of the natural world.

The clash between nature and civilization reaches its most extreme form in the total transformation of the natural world that takes place in modern industrialized nations. Here human manipulation, exploitation, and out-and-out destruction of what is given by nature is on so huge a scale that the entire physical and biological composition of our planet is profoundly affected. Given the rise of advanced

technology, an economy dependent on and geared for high-level consumption, and the human population explosion, what is left of the natural world is quickly disappearing. The more we take for ourselves, the less there is for other species.

When we look at this conflict between human civilization and the natural world from an ethical standpoint, we do not see it as a brute, uncontrolled and uncontrollable struggle for survival. We view the competition between human cultures and the natural ways of nonhuman species as something that can exemplify a moral order. By imposing constraints on our own lifestyles and cultural practices, we who are moral agents have the capacity to replace the chaos of a world torn to pieces by human greed and voraciousness with a well-ordered moral universe in which both respect for wild creatures and respect for persons are given a place. There is no reason why, together with humans, a great variety of animal and plant life cannot exist side by side on our planet. In order to share the Earth with other species, however, we humans must impose limits on our population, our habits of consumption, and our technology. We will do this to the extent that we have genuine respect for the natural world and the living things in it.¹

It is when we have adopted the attitude of respect for nature that there arise serious moral dilemmas posed by the competing interests of humans and nonhumans. The problems of choice take on an ethical dimension. Having respect for nature does not, after all, entail giving up or ignoring our human values. We may regard all wild animals and

¹ The need for limits to economic growth, justified on the basis of environmental considerations, has been advocated by a number of writers. Of special note are William Ophuls, *Economics and the Politics of Scarcity: A Prologue to a Political Theory of the Steady State* (San Francisco: W. H. Freeman, 1977), and Herman E. Daly, *Steady-State Economics: The Economics of Biophysical Equilibrium and Moral Growth* (San Francisco: W. H. Freeman, 1977). See also Joel Kassiola, "The Limits to Economic Growth: Politicizing Advanced Industrialized Society," *Philosophy and Social Criticism* 8/1 (Spring 1981): 87-113.

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plants as possessing inherent worth, yet still believe that we are entitled to pursue our interests in the advancement of knowledge, the creation and appreciation of the arts, and many other aspects of civilized life. We may also think it is a basic moral right of every human person to choose her or his own plan of life and have the opportunity to live in accordance with it. Since we can retain the attitude of respect for persons even when we have also adopted the attitude of respect for nature, we may consider it our duty to allow people to exercise their moral rights, despite the fact that doing so inevitably involves using the resources of the natural world, including animals and plants themselves, for human benefit.

Suppose we do have both the attitude of respect for nature and that of respect for persons. The conflict between the good of other species and the realization of human values (including the opportunity to exercise human rights) then appears to us as a situation of *competing moral claims*. From the standpoint of respect for nature we recognize the duty not to harm or interfere with a viable life community of wild animals and plants. At the same time we acknowledge and accept the duty to provide for the freedom, autonomy, and well-being of ourselves and our fellow humans. When we are committed to both systems of ethics, the good of other species and the good of humans make claims that must equally be taken into consideration. Yet in many circumstances our meeting the demands of one claim precludes our meeting the demands of others.

If the argument against the idea of human superiority presented in Chapter Three is sound, it is not open to us to resolve such dilemmas by automatically giving greater moral weight to human claims and thereby letting them always override the competing claims of nonhumans. Nor can we avoid the issue by arguing that in the long run the interests of humans and the good of wild animals and plants coincide. Large numbers of organisms, species-populations, and communities of life can be destroyed for the

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sake of benefiting humans, and if care and foresight are taken, the future of human life on Earth could still be assured. The conflicts between humans and nonhumans are real.

The problem of competing claims that confronts us here, then, is the problem of finding a set of priority principles that cut across both the domain of environmental ethics and of human ethics. These priority principles must satisfy the five formal conditions of morality, since they are themselves moral principles. They must therefore be general in form, universally applicable, disinterested, advocated for all agents, and considered as properly overriding any non-moral norms. As far as their material condition is concerned, they must embody the concept of *fairness*. Their content must be such that, when decisions are made on their basis, all parties to the conflict are treated fairly. Thus our search for valid priority principles is a search for an answer to the question: How can situations of competing moral claims arising from conflicts between human ethics and environmental ethics be fairly resolved?

2. *Human Rights and the Inherent Worth of Nonhumans*

One difficulty implicit in situations of competing claims between humans and nonhumans has to do with the view (which I defended in Chapter Five) that humans have moral rights while animals and plants do not. One might think that this entails the priority of human claims over those of animals and plants. We may see that this in fact is not so if we review to what beliefs and values we are committed when we have adopted the attitude of respect for nature on the basis of the biocentric outlook. The key point to remember is that we have rejected the whole idea of human superiority over other forms of life. This was made clear in the analysis of the fourth component of the biocentric outlook, where the notion of human superiority was shown to be nothing but an irrational and arbitrary bias in favor of our

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own species. Now, the reasoning leading to this conclusion is not affected in any way by the argument that shows that human persons alone are full-fledged bearers of moral rights. For that argument does not support the view that among those rights is the right to dominate and exploit nonhumans for the benefit of humans, nor does it support the view that other living things have less inherent worth than human rights-holders.

Human persons ascribe to themselves moral rights because they place supreme value on their personhood. Having self-respect, they address the community of moral agents and demand that the necessary conditions for their very existence as persons be secured. The same claim they make against others they also acknowledge as rightfully made by others against them. Thus the concept of moral rights sets a firm relationship of equality among all bearers of rights.

This equality among rights-holders, however, does not imply any *inequality* between rights-holders and other living things.² It is true that the latter cannot demand that they be respected as beings possessing inherent worth by addressing their claim-to-be-respected to the moral community. For this reason they are not the sort of beings to which (primary) moral rights can meaningfully be ascribed. But their claim-to-be-respected can still be acknowledged by moral agents, who can see themselves as being under constraints with regard to that claim. They will in fact see themselves this way when they consider nonhuman living things to have inherent worth, the *same* inherent worth they themselves possess as bearers of moral rights. And just as they believe that other moral agents must respect their good for their sake, so they believe that they must respect the good of animals and plants who, because they possess inherent worth, deserve equal concern and consideration with humans. To put it another way, to adopt the

² This point was also made in Chapter Three, where I examined Louis G. Lombardi's arguments for the superiority of humans over animals and plants.

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attitude of respect for nature is to consider morally irrelevant the fact that wild animals and plants, unlike human persons, are not bearers of moral rights.

What, then, is the source of the special importance we all place on our rights? Doesn't the status of being a bearer of moral rights give us a claim that goes beyond that entailed by our inherent worth? The answer is no. What we *do* gain by having that status is the public recognition by the moral community of the inviolability or "sanctity" of our personhood. We are understood by everyone to have the same entitlement to our existence as persons as anyone else in that community.

The importance attached to our rights, therefore, is an importance connected with our membership in the moral community. It does not signify that our personhood endows us with greater inherent worth than the inherent worth of those who are not members of that community. Since all living things have a good of their own, the realization of which is the central goal of their lives (even if that goal is not an end consciously aimed at), their having the opportunity to pursue their good is as important to them as our having the opportunity to pursue our autonomously chosen values is to us. This sameness of importance is not undercut by the conceptual point that we have the *right* to pursue our values but they do not have the right to pursue their good (since they are not the sort of beings who can have rights in the primary sense in which persons have rights).

We are left, then, with the problem of competing claims set out in the earlier part of this chapter. We must still try to find priority principles for resolving conflicts between humans and nonhumans which do not assign greater inherent worth to humans, but consider all parties as having the same worth. The principles, in other words, must be consistent with the fundamental requirement of *species-impartiality*. For only then can there be genuine fairness in the resolution of such conflicts.

3. *Five Priority Principles for the Fair Resolution
of Conflicting Claims*

I shall now consider in depth five such principles, to be designated as follows:

- a. The principle of self-defense.
- b. The principle of proportionality.
- c. The principle of minimum wrong.
- d. The principle of distributive justice.
- e. The principle of restitutive justice.

Although I believe these five principles cover all the major ways of adjudicating fairly among competing claims arising from clashes between the duties of human ethics and those of environmental ethics, I must emphasize at the outset that they do not yield a neat solution to every possible conflict situation. Each principle represents one cluster of morally relevant considerations one must take into account, and these considerations can serve as rough guides in reaching decisions about what duties outweigh others. But the principles do not function as premises in a deductive argument. We cannot deduce from them, along with the facts of the case, a true conclusion expressible in a normative statement about what ought to be done, all things considered. We should strive to make our decisions on the basis of relevant considerations, and the relevance of a consideration is determined by the application of the principles. To the extent we are successful in this case we can have some confidence in the fairness of our judgment. Nevertheless, there will always be a degree of uncertainty, and our minds should accordingly be open to the possibility that we have made a mistake. We must remain ready to revise our judgment, not only in the light of new factual information but also on the basis of further critical reflection

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concerning the precise meaning of a principle and the conditions of its proper application.

Using these five principles as normative guides in our decision making will not enable us to avoid the "hard cases." (The same holds true for conflicts of duties *within* human ethics or environmental ethics.) These are the cases where the competing claims are so complex and so powerful on both sides that no solution by reference to the principles alone can be reached. These inevitable gaps in our decision-making procedure, however, need not mean that we must then become arbitrary in our choice of what to do. We must take another step in seeking a fair resolution of the conflict. This step involves appealing to *the ethical ideal* that underlies and inspires (defines the "spirit" of) the whole structure of priority relations contained in the five principles and their conditions of applicability. I shall analyze and explain what this ethical ideal is after discussing the five principles. It provides a comprehensive vision of the place of human values in the larger world of the natural order of living things. We might designate it "an ideal harmony between nature and human civilization." It is this vision of a "best possible world" that expresses the spirit behind the letter of the five principles, that unifies them and interrelates them in a coherent manner, and that gives them their overall point and purpose. It is in the light of this ethical ideal that all the hard cases must finally be resolved. Thus a fair resolution to a problem of competing claims, even when not wholly determined by one of the principles, is a decision that fits coherently into the overall vision of human civilization and nature that underlies and unifies the five principles.

Putting aside consideration of this ethical ideal until later, I shall now consider the five priority principles in the order given in the foregoing list.

a. The Principle of Self-Defense

The principle of self-defense states that it is permissible for moral agents to protect themselves against dangerous or

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harmful organisms by destroying them. This holds, however, only when moral agents, using reasonable care, cannot avoid being exposed to such organisms and cannot prevent them from doing serious damage to the environmental conditions that make it possible for moral agents to exist and function as moral agents. Furthermore, the principle does not allow the use of just any means of self-protection, but only those means that will do the least possible harm to the organisms consistent with the purpose of preserving the existence and functioning of moral agents. There must be no available alternative that is known to be equally effective but to cause less harm to the "attacking" organisms.

The principle of self-defense permits actions that are absolutely required for maintaining the very existence of moral agents and for enabling them to exercise the capacities of moral agency. It does not permit actions that involve the destruction of organisms when those actions simply promote the interests or values which moral agents may have as persons. Self-defense is defense against *harmful and dangerous* organisms, and a harmful or dangerous organism in this context is understood to be one whose activities threaten the life or basic health of those entities which need normally functioning bodies to exist as moral agents.

There is a close parallel here with the principle of self-defense as it is found in the domain of human ethics. If we have a moral right to life it follows that we also have a moral right to protect ourselves, by forceful means if necessary, when our lives are threatened by others. But this does not mean we are permitted to use force against others merely to further our own ends and values. It should be noted that even when the attacker is an innocent human being, as would be the case where an insane man is going berserk and will harm us unless we use force to stop him, our right of self-defense makes it permissible to protect ourselves against him to the point of killing him if there is no other way to avoid being killed ourselves. Thus the parallel with self-defense in environmental ethics against nonhuman an-

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imals and plants holds. The fact that the "attackers" are morally innocent does not invalidate the principle.

The full meaning of this priority principle and the grounds on which it rests can be brought out by considering the following three points.

(i) The principle of self-defense does not justify harming creatures that do not harm us unless doing so is a practical necessity arising from a situation where we cannot separate harmless organisms from the harmful ones against which we are defending ourselves. In this respect we shall see that the principle of self-defense differs from the second, third, and fourth principles to be considered. In certain situations to which these other principles apply, harm may have to be done to at least some harmless creatures even when this is not a matter of protecting ourselves from harm.

(ii) Despite what might at first appear to be a bias in favor of humans over other species, the principle of self-defense is actually consistent with the requirement of species-impartiality. It does not allow moral agents to further the interests of any organism because it belongs to one species rather than another. In particular, humans are not given an advantage simply on the basis of their humanity.

There are two considerations that support this claim to species neutrality. In the first place the principle of self-defense is formulated in such a way as to be species-blind. The statement of the principle refers only to moral agents and organisms (of whatever species) that are not moral agents. No mention is made of humans and nonhumans. Of course, in discussing various aspects and implications of the principle, one ordinarily refers to humans defending themselves against nonhumans as typical of situations in which the principle applies to the practical circumstances of life. Strictly speaking, however, no reference to any species need be made. The fact that (most) humans are moral agents and (most) nonhumans are not is a contingent truth which the principle does not take to be morally relevant. Moral agents are permitted to defend themselves against

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harmful or dangerous organisms that are not moral agents. This is all the principle of self-defense allows. If there happen to be nonhuman moral agents whose existence as moral agents is endangered by the actions of humans who are not moral agents (such as the insane and the severely retarded), then the principle states that it is permissible for the nonhumans in question to kill those humans who endanger them, if this is required for the preservation of the nonhumans' status as moral agents and there is no alternative way to protect themselves.

The second consideration that supports the species-impartiality of the principle is that the principle is fully consistent with the idea that all living things, human and non-human alike, have the same inherent worth. It is helpful here to refer once again to the principle of self-defense in the domain of human ethics. Our right to use force against another human being who assaults us does not imply that we have greater inherent worth than the attacker. It only means that we can rightfully use a "least evil" means to preserve our own existence. Indeed, out of respect for the personhood of the other we are duty-bound to do him or her no greater harm than is absolutely needed for our defense.

Equality of worth between aggressor and defender in human ethics is shown in our willingness to make the principle of self-defense universal. From a moral point of view we would judge it right for another to defend herself or himself against ourselves if *we* were the aggressor. This idea of reversibility (if it is right for A to do X to B it is right for B to do X to A) entails the equal worth of agent and subject. For any person may be in the role of subject and any may be in the role of agent, without change in the justifiability of acts of self-defense.

In the case of self-defense against animals and plants, however, the universalizability and reversibility tests are inapplicable, since animals and plants cannot take the role of moral agents, though they can be in the position of moral subjects. What they do to us is neither right nor wrong, be-

cause their activities are not within the range of moral standards or rules. Still, the permissibility of our defense against them does not imply they are inferior in worth to us, as we can see from the following considerations. When we have a firm sense of our own worth we place intrinsic value on our existence as persons. Out of self-respect we judge our personhood to be something worthy of being preserved. At the same time we believe that we are not inferior in worth to animals or plants. Now if we were to refrain from defending ourselves against them and so allow them to kill us, we would be sacrificing our very existence to them. To *require* such a sacrifice as a moral duty could only be justified on the ground that they have greater inherent worth than we do. Assuming that we have no good reasons for accepting that ground, we may conclude that there is no validly binding duty on our part to sacrifice ourselves to them. It is therefore morally permissible for us to defend ourselves against them, even though they are equal to us in inherent worth.

(iii) The third point has to do with the unavoidability of actions taken under the principle. With regard to the parallel case in the domain of human ethics, we are permitted to use force against another in defense of our life only when we cannot avoid the other's attack or escape from the situation. If someone threatens us and we can safely get out of the way, we should do so. For the analogous case of resolving competing claims by reference to the principle of self-defense, we should make every reasonable effort to avoid situations where nonhuman organisms will be likely to harm us, and we should keep ourselves strong and healthy so that there is less need to destroy other creatures whose activities would endanger us in a weak condition. Finally, before the harming of nonhuman organisms can be permitted on grounds of self-defense, it must be the case that reasonable precautions have been taken by moral agents to guard against known circumstances where disease, poisoning, or other biologically caused dangers are apt to be present.

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The reason for these restrictions and qualifications is that all living things, whether harmful or harmless to humans, possess inherent worth and so are the appropriate objects of the attitude of respect. To kill or otherwise harm such creatures is always something morally bad in itself and can only be justified if we have no feasible alternative. At the same time we must have a valid moral reason for doing so, and a moral reason sufficiently weighty to override the *prima facie* reason against doing so. Self-defense, when understood as an act absolutely required to preserve the very existence of a moral agent, can be such an overriding reason. It is only under these conditions that the principle of self-defense applies.³

b. The Principle of Proportionality

Before considering in detail each of the four remaining priority principles, it is well to look at the way they are interrelated. First, all four principles apply to situations where the nonhuman organisms involved are harmless. If left alone their activities would not endanger or threaten human life and health. Thus all four principles apply to cases of conflict between humans and nonhumans that are not covered by the principle of self-defense.

Next we must make a distinction between basic and non-basic interests.⁴ Using this distinction, the arrangement of

³ For this account of self-defense as a moral principle, I am indebted to Charles Fried, *Right and Wrong* (Cambridge, Mass.: Harvard University Press, 1978), pp. 42-53.

⁴ In one of the few systematic studies of priority principles holding between humans and nonhumans, Donald VanDeVeer argues that the distinction between basic and "peripheral" (nonbasic) interests, which applies to all species that can be said to have interests, is a morally relevant difference; see VanDeVeer, "Interspecific Justice," *Inquiry* 22/1-2 (Summer 1979): 55-79. VanDeVeer would not, however, be likely to accept any of the priority principles I set out since he considers the psychological capacity to live a satisfying life a ground for counting the interests of beings possessing that capacity to be of greater weight than the equally basic interests of beings lacking it. His main reason for opposing pure egalitarianism among species seems to be that such a view is counterintuitive, being incompatible with "our deepest and strongest pre-theoretical convictions about specific cases" (p. 58; see also pp. 66 and 76). For reasons given in Chapter

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the four principles can be set out as follows. The principles of proportionality and minimum wrong apply to cases in which there is a conflict between the *basic* interests of animals or plants and the *nonbasic* interests of humans. The principle of distributive justice, on the other hand, covers conflicts where the interests of all parties involved are *basic*. Finally, the principle of restitutive justice applies only where, in the past, either the principle of minimum wrong or that of distributive justice has been used. Each of those principles creates situations where some form of compensation or reparation must be made to nonhuman organisms, and thus the idea of restitution becomes applicable.

What differentiates basic from nonbasic interests? To answer this it is necessary first to define what is meant by the term "interests" and then specify criteria for determining whether interests are basic or nonbasic. In our present context it will be convenient if we speak of those events and conditions in the lives of organisms that are conducive to the realization of their good as furthering, promoting, or advancing their interests. Events and conditions detrimental to the realization of their good will be described as being adverse to, opposed to, or unfavorable to their interests. I shall also use the term "interests" to refer to whatever objects or events serve to preserve or protect to some degree

One, I do not consider any appeal to pre-theoretical convictions, however deeply held, to be philosophically relevant.

VanDeVeer's position has recently been defended, with certain qualifications, by Robin Attfield in *The Ethics of Environmental Concern* (New York: Columbia University Press, 1983), chapter 9. Attfield holds that "... varying degrees of *intrinsic* value attach to lives in which different capacities are realized" (Attfield's italics, p. 176). This is a view similar to that of Louis G. Lombardi, which I critically examined in Chapter Three. Attfield's arguments, unlike Lombardi's, are marred by a failure to distinguish the concept of intrinsic value from that of inherent worth. The utilitarianism Attfield espouses is not seen to be logically incompatible with the principle that each organism has inherent worth as an individual, a principle he also appears to hold. The incompatibility of these two ideas has been clearly explained by Tom Regan in *The Case for Animal Rights*, chapters 7 and 8. See also note 6, below.

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or other the good of a living thing. Whether or not an organism likes or dislikes anything, feels pleasure or pain, has any conscious desires, aims, or goals, cares about or is concerned with what happens to it, and whether or not it is even conscious at all, I shall here speak of its interests in this way.

In considering how interests can be classified as basic and nonbasic, we must take into account the fact that the interests of an organism can be of different degrees of comparative importance to it. One of its interests is of greater importance to it than another, either if the occurrence of the first makes a more substantial contribution to the realization of its good than the second, or if the occurrence of the first is a necessary condition for the preservation of its existence while the occurrence of the second is not. We might say that one interest is of greater importance than another to the extent that the nonfulfillment of the first will constitute a more serious deprivation or loss than the non-fulfillment of the second. [The most important interests are those whose fulfillment is needed by an organism if it is to remain alive]

If it is possible for us to make judgments of the comparative importance of interests of nonhuman animals and plants because, once we become factually enlightened about what protects or promotes their good, we can *take their standpoint* and judge what is, from their point of view, an important or unimportant event in their lives as far as their overall well-being is concerned. Thus we are able to make a reasonable estimate of how seriously they would be harmed or deprived of something good if a certain condition were absent from their lives.

What counts as a serious harm or deprivation will, of course, depend on the kind of organism concerned. If each organism has a good of its own, so that it makes sense to speak of its faring well or poorly to the extent that it is able or unable to live a life fitted for its species-specific nature,

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then we may consider a serious harm or deprivation as being whatever severely impairs its ability to live such a life or makes it totally unable to do so.

In the case of humans a serious harm or deprivation will be whatever takes away or greatly reduces their powers of rationality and autonomy, including conditions of mental or physical incapacity that make it impossible for them to live a meaningful life. Since properly functioning organs and the soundness and health of other components of one's body are essential to human well-being, whatever injures these parts of one's body is a harm. The seriousness of the harm depends on the extent and permanence of damage done to those parts and on their contribution to the ability of the organism as a whole to function in a healthy way. With regard to the psychological aspects of a human being, a serious harm will include anything that causes insanity, severe emotional disorder, or mental retardation of a kind that prevents the development or exercise of the basic powers of rationality and autonomy.

I might note that with reference to humans, [basic interests are what rational and factually enlightened people would value as an essential part of their very existence as persons.) They are what people need if they are going to be able to pursue those goals and purposes that make life meaningful and worthwhile. Thus for human persons their basic interests are those interests which, when morally legitimate, they have a *right* to have fulfilled. As we saw in the preceding chapter, we do not have a right to whatever will make us happy or contribute to the realization of our value system; we do have a right to the necessary conditions for the maintenance and development of our personhood. These conditions include subsistence and security ("the right to life"), autonomy, and liberty. A violation of people's moral rights is the worst thing that can happen to them, since it deprives them of what is essential to their being able to live a meaningful and worthwhile life. And

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since the fundamental, necessary conditions for such a life are the same for everyone, our human rights have to do with universal values or primary goods. They are the entitlement we all have as persons to what makes us persons and preserves our existence as persons.

In contrast with these universal values or primary goods that constitute our basic interests, our non-basic interests are the particular ends we consider worth seeking and the means we consider best for achieving them that make up our individual value systems. The nonbasic interests of humans thus vary from person to person, while their basic interests are common to all.

This discussion of basic and non-basic interests has been presented to introduce the second and third priority principles on our list, proportionality and minimum wrong. Both principles employ the distinction between basic and nonbasic interests, so it was necessary to clarify this distinction before examining them.

The principles apply to two different kinds of conflicts among competing claims. In both cases we are dealing with situations in which the *basic* interests of animals and plants conflict with the *nonbasic* interests of humans. But each principle applies to a different type of nonbasic human interests. In order to differentiate between these types we must consider various ways in which the nonbasic interests of humans are related to the attitude of respect for nature.

First, there are nonbasic human interests which are *intrinsically incompatible* with the attitude of respect for nature. The pursuit of these interests would be given up by anyone who had respect for nature since the kind of actions and intentions involved in satisfying them directly embody or express an exploitative attitude toward nature. Such an attitude is incompatible with that of respect because it means that one considers wild creatures to have merely instrumental value for human ends. To satisfy nonbasic interests of this first kind is to deny the inherent worth of animals

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and plants in natural ecosystems. Examples of such interests and of actions performed to satisfy them are the following (all actually occur in the contemporary world):

Slaughtering elephants so the ivory of their tusks can be used to carve items for the tourist trade.

Killing rhinoceros so that their horns can be used as dagger handles.

Picking rare wildflowers, such as orchids and cactuses, for one's private collection.

Capturing tropical birds, for sale as caged pets.

Trapping and killing reptiles, such as snakes, crocodiles, alligators, and turtles, for their skins and shells to be used in making expensive shoes, handbags, and other "fashion" products.

Hunting and killing rare wild mammals, such as leopards and jaguars, for the luxury fur trade.

All hunting and fishing which is done as an enjoyable pastime (whether or not the animals killed are eaten), when such activities are not necessary to meet the basic interests of humans. This includes all sport hunting and recreational fishing.

The ends and purposes of these practices and the human interests that motivate them are inherently incompatible with the attitude of respect for nature in the following sense. If we consider the various practices along with their central purposes as representing a certain human attitude toward nature, this attitude can only be described as exploitative. Those who participate in such activities with the aim of accomplishing the various purposes that motivate and direct them, as well as those who enjoy or consume the products while knowing the methods by which they were obtained, cannot be said to have genuine respect for nature. For all such practices treat wild creatures as mere instruments to human ends, thus denying their inherent worth. Wild animals and plants are being valued only as a source

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of human pleasure or as things that can be manipulated and used to bring about human pleasure.

It is important to realize that the human interests that underlie these practices are nonbasic. Even when hunters and fishermen eat what they have killed, this is incidental to the central purpose and governing aim of their sport. (I am not at this point considering the very different case of subsistence hunting and fishing, where such activities are not done as enjoyable pastimes but out of necessity.) That eating what they kill is a matter of pleasure and hence serves only a nonbasic interest is shown by the fact that they would continue to hunt or fish even if, for some reason of health or convenience, they did not eat the mammal, bird, or fish they killed. They are not hunting or fishing in order to have enough food to live.

With reference to this and to all the other examples given, it should be noted that none of the actions violate human rights. Indeed, if we stay within the boundaries of human ethics alone, people have a moral right to do such things, since they have a freedom-right to pursue without interference their legitimate interests and, within those boundaries, an interest is "legitimate" if its pursuit does not involve doing any wrong to *another human being*.

It is only when the principles of environmental ethics are applied to such actions that the exercise of freedom-rights in these cases must be weighed against the demands of the ethics of respect for nature. We then find that the practices in question are wrong, *all things considered*. For if they were judged permissible, the basic interests of animals and plants would be assigned a lower value or importance than the nonbasic interests of humans, which no one who had the attitude of respect for nature (as well as the attitude of respect for persons) would find acceptable. After all, a human being can still live a good life even if he or she does not own caged wild birds, wear apparel made from furs and reptile skins, collect rare wildflowers, engage in hunting

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and fishing as recreational pastimes, buy ivory carvings, or use horn dagger handles. But every one of these practices treats wild animals and plants as if their very existence is something having no value at all, other than as means to the satisfaction of human preferences.

Let us now consider another type of nonbasic human interest that can come into conflict with the basic interests of wild animals and plants. These are human interests which, in contrast with those just considered, are not *in themselves* incompatible with respect for nature. Nevertheless, the pursuit of these interests has *consequences* that are undesirable from the perspective of respect for nature and should therefore be avoided if possible. Sometimes the nonbasic human interests concerned will not be valued highly enough to outweigh the bad consequences of fulfilling them. In that case a person who has respect for nature would willingly forgo the pursuit of those interests. Other times the interests will be so highly valued that even those who genuinely respect nature will not be willing to forgo the pursuit of the interests. In the latter case, although having and pursuing the interests do not embody or express the attitude of respect for nature, neither do they embody or express a purely exploitative attitude toward nature. Wild animals and plants are not being used or consumed as mere means to human ends, though the consequences of actions in which the interests are pursued are such that wild creatures suffer harm. Examples of nonbasic interests of this type are:

Building an art museum or library where natural habitat must be destroyed.

Constructing an airport, railroad, harbor, or highway involving the serious disturbance of a natural ecosystem.

Replacing a native forest with a timber plantation.

Damming a free-flowing river for a hydroelectric power project.

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Landscaping a natural woodland in making a public park.

Whether people who have true respect for nature would give up the activities involved in these situations depends on the value they place on the various interests being furthered. This in turn would depend on people's total systems of value and on what alternatives were available—in particular, whether substitutes less damaging to the environment could be found and whether some or all of the interests could be satisfied in other ways.

Let us recapitulate this classification of nonbasic human interests, since it is crucial to the examination of the priority principles I will consider below. First there are interests that directly express an exploitative attitude toward nature; actions taken to satisfy such interests are intrinsically incompatible with respect for nature. Second, there are interests that do not exemplify in themselves an exploitative attitude toward nature, but in many practical circumstances the means taken to satisfy those interests bring about effects on the natural world which, in the eyes of those who have respect for nature, are to be avoided whenever possible. Among this second class of interests are those which are not important enough to (not so highly valued by) a person to make the gains of their pursuit outweigh the undesirable consequences for wildlife. Others are such that their value does outweigh the undesirable consequences, even when such weight is assigned by one who has full respect for nature.

This classification bears on the two priority principles we are now about to consider: the principle of proportionality and that of minimum wrong. Each of the two kinds of nonbasic human interests mentioned above determines the range of application of one of these principles. The principle of proportionality applies to situations of conflict between the basic interests of wild animals and plants and those nonbasic human interests that are intrinsically incom-

patible with respect for nature. The principle of minimum wrong, on the other hand, applies to conflicts between the basic interests of wild animals and plants and those non-basic human interests that are so highly valued that even a person who has respect for nature would not be willing to abstain from pursuing them, knowing that the pursuit of such interests will bring about conditions detrimental to the natural world.

The accompanying figure schematically represents the relations among the five priority principles and their ranges of application.

Putting aside consideration of the principle of minimum wrong until later, I shall now discuss that of proportionality. The central idea of the principle of proportionality is that, in a conflict between human values and the good of (harmless) wild animals and plants, greater weight is to be given to basic than to nonbasic interests, no matter what species, human or other, the competing claims arise from. Within its proper range of application the principle prohibits us from allowing nonbasic interests to override basic ones, even if the nonbasic interests are those of humans and the basic are those of animals and plants.⁵

The conditions of applicability of this principle are that the human interests concerned are nonbasic ones that are intrinsically incompatible with the attitude of respect for nature, that the competing claims arise from the basic inter-

⁵ My principle of proportionality is similar to Tom Regan's "Worse-off Principle," differing mainly from it in that the "Worse-off Principle" is stated in terms of rights and is restricted to conflicts between humans and only those animals that satisfy what Regan calls "the subject-of-a-life criterion." These are animals that "... have beliefs and desires; perception, memory, and a sense of the future, including their own future; an emotional life together with feelings of pleasure and pain; preference- and welfare-interests; the ability to initiate action in pursuit of their desires and goals; a psychophysical identity over time; and an individual welfare in the sense that their experiential life fares well or ill for them, logically independently of their utility for others and logically independently of their being the object of anyone else's interests" (*The Case for Animal Rights*, p. 243). The "Worse-off Principle" is set forth and discussed by Regan on pp. 307-312 of his book.

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WILD ANIMALS AND PLANTS	Harmful to Humans	Harmless to Humans (Or: their harmfulness can reasonably be avoided)		
		<i>Basic Interests</i>		<i>Basic Interests</i>
... in conflict with in conflict with in conflict with ...	
HUMANS		<i>Nonbasic interests</i>		<i>Basic interests</i>
		Intrinsically incompatible with respect for nature.	Intrinsically compatible with respect for nature, but extrinsically detrimental to wildlife and natural ecosystems.	
PRIORITY PRINCIPLES	(1) <i>Self-defense</i>	(2) <i>Proportional- ity</i>	(3) <i>Minimum wrong</i>	(4) <i>Distributive justice</i>
			... when (3) or (4) have been applied ... (5) <i>Restitutive justice</i>	

ests of wild animals and/or plants, and that these animals and plants are harmless to humans (self-defense is not in question). Examples of conflicts of the relevant sort were given earlier. It should be noted that such practices as recreational fishing and hunting and buying luxury furs made from the pelts of wild creatures are actually accepted by millions of people as morally permissible. This fact merely shows the unquestioned, total anthropocentricity of their outlook on nature and their attitude toward wild creatures. It is clear, however, that from the standpoint of the life-centered system of environmental ethics defended in this book, such practices are to be condemned as being funda-

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mentally exploitative of beings who have as much inherent worth as those who exploit them.

c. The Principle of Minimum Wrong

The principle of minimum wrong applies to situations in which (i) the basic interests of animals and plants are unavoidably in competition with nonbasic interests of humans; (ii) the human interests in question are *not* intrinsically incompatible with respect for nature; (iii) actions needed to satisfy those interests, however, are detrimental to the basic interests of animals and plants; and (iv) the human interests involved are so important that rational and factually informed people who have genuine respect for nature are not willing to relinquish the pursuit of those interests even when they take into account the undesirable consequences for wildlife.

Examples of such situations were given earlier: building a library or art museum where natural habitat must be destroyed; constructing an airport, railroad, harbor, or highway involving serious disturbance of a natural ecosystem; damming a river for a hydroelectric power project; replacing a wilderness forest with a timber plantation; landscaping a natural woodland to make a public park. The problem of priority in these situations is this: How can we tell when it is morally permissible for humans to pursue their nonbasic interests when doing so adversely affects the basic interests of wild animals and plants?

It is true here as it was in the case of the principle of proportionality that human ethics *alone* permits actions (such as destroying wildlife habitat in order to build an art museum) that further nonbasic human interests at the expense of the basic interests of other living things. This is because humans have a freedom-right to pursue their legitimate interests, where an interest is legitimate when its pursuit does not involve wrongdoing to *other humans*. But as soon as the principles of environmental ethics are brought in, what people have a right to do with regard to other persons is no

longer the decisive question. The well-being of other living things must be taken into consideration.

Now, fulfilling the nonbasic interests of humans in our present case is held to be so important that, even for those who have the attitude of respect for nature, such fulfillment is deemed to be worth the cost of harming wildlife. What is the basis for this special importance? The answer lies, first, in the role such interests play in the overall view of civilized life that rational and informed people tend to adopt autonomously as part of their total world outlook. Secondly, the special value given to these interests stems from the central place they occupy in people's rational conception of their own true good. The first point concerns the cultural or social aspect of the valued interests—more specifically, the importance of their contribution to human civilization seen from a broad historical perspective. The second concerns the relation of the valued interests to an individual's view of the kind of life which, given one's circumstances and capacities, is most worth living.

With regard to the first point, the interests in question are considered by the people as essential to a whole society's maintaining a high level of culture, when judged from the shared standards of its common way of life as it has developed throughout its history. The judgment of contribution to a high level of culture, I assume here, is being made by persons who are fully rational and enlightened. Not only the endeavor to create meritorious works and make worthwhile discoveries in the intellectual and aesthetic dimensions of human culture will be included among these valued interests, but also the legal, political, and economic systems needed for the community's steady advancement toward a high level of civilized life. Thus the goals and practices that form the core of a rational and informed conception of a community's highest values will be interests that carry great weight when they compete with the (basic) interests of the Earth's nonhuman inhabitants, even in the minds of people who regard those inhabitants as possess-

ing an inherent worth equal to that of humans themselves. Using the concepts of intrinsic value and inherent value introduced earlier in this book, we might say that the system of *intrinsically valued ends* shared by a whole society as the focus of its way of life, along with those human creations and productions that are judged as *supremely inherently valuable* by rational and enlightened members of the society, determine the set of human interests that are to be weighed against the interests of animals and plants in the situations of conflict to which the principle of minimum wrong is applicable. Within the framework of a given culture's way of life when we see it from the perspective of its history, taking into account the *meaning* its history has for the people of that culture, we can make a rational and informed judgment of the kind of civilization that is, within that framework and from that perspective, most worthy of being preserved. The human values, intrinsic and inherent, whose realization is central to that conception of civilization are the values that must be compared in importance with the undesirability of destroying wildlife habitat and natural ecosystems, when that is an unavoidable consequence of realizing those values.

Similarly, when certain human interests are seen to lie at the center of a rational person's system of autonomously chosen ends, thus functioning as the unifying framework for a total conception of an individual's own true good, the value placed on such interests may be given greater weight by the person than the undesirable effects on the natural world the pursuit of those interests might have, even when the person has adopted the attitude of respect for nature.

We have so far dealt with the kinds of conflict to which the principle of minimum wrong applies. It is now time to make clear the content of the principle. The principle states that, when rational, informed, and autonomous persons *who have adopted the attitude of respect for nature* are nevertheless unwilling to forgo the two sorts of values mentioned above, even though they are aware that the consequences of pursuing those values will involve harm to wild animals

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and plants, it is permissible for them to pursue those values only so long as doing so involves fewer wrongs (violations of duties) than any alternative way of pursuing those values.

This principle sets certain moral constraints on the pursuit of the two types of human values we are concerned with here. In the case of social institutions and practices basic to a community's realization of a high level of civilization, the principle requires that the particular institutions and practices of a community are such that they result in the least wrong being done to the natural world. Here "least wrong" means the lowest number of violations of the rule of nonmaleficence in the ethical system of respect for nature. This lowest number of wrongdoings assumes that there are no alternative institutions and practices which could be used by the community to accomplish the same social ends but which would involve still fewer instances of wrongdoing to wild living things in natural ecosystems.

Concerning the second type of human value, the principle of minimum wrong lays down the requirement that actions taken by individuals in the pursuit of ends that lie at the core of their rational conceptions of their true good must be such that no alternative ways of achieving those ends produce fewer wrongs to wild living things. As before, the key test for moral permissibility is that certain non-basic interests of humans may be furthered only under the condition of minimizing wrongs done to nonhumans in natural ecosystems.

Is this principle consistent with the idea that wild animals and plants have inherent worth? To answer this we must take into account the difference between a utilitarian calculation of consequences and a deontological or nonconsequential view of minimizing wrongdoings.⁶ According to a

⁶ The distinction between a utilitarian calculation of least bad consequences and a nonconsequential principle of minimizing violations of duty has been propounded and carefully examined by Tom Regan in *The Case for Animal Rights*, section 8.9, "Should the Numbers Count?" and section 8.10, "The Miniride and Worse-Off Principles" (pp. 297-312). Regan's work in this area, to which I am indebted, makes an original and signifi-

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utilitarian ethical system there is always a duty, when harm must be done to some in bringing benefits to others, to do that action (or follow that rule) which produces the least amount of harm when weighed against the benefits. One simply calculates the best consequences, as measured by quantities of intrinsic value and disvalue. The principle of minimum wrong, on the other hand, does not consider the beings that are benefited or harmed as so many "containers" of intrinsic value or disvalue. They are beings to which are owed *prima facie* duties. We owe the duty of nonmaleficence, for example, to both humans and nonhumans alike. Each being has inherent worth as an individual and must accordingly be treated with respect, regardless of what species it belongs to. An action that brings harm to any one such being constitutes a *prima facie* wrong from which moral agents have a duty to refrain. To harm several such beings is not merely to bring about a certain amount of intrinsic disvalue in the world, to be balanced against whatever value might also be produced. It is to commit a number of violations of duty, corresponding to the number of creatures harmed.

Suppose, then, that one alternative way for humans to pursue their interests in situations of the sort we are here concerned with brings harm to a certain number of living things, while another way to pursue the same interests involves harm done to a smaller number of living things. If we were to choose the first alternative we would be knowingly performing more wrong actions than if we chose the second. It is not the aggregate amount of disvalue or harm that is relevant here, but the number of cases in which one fails to carry out one's duty to another being. Each entity that is harmed is thereby treated unjustly and so is wronged. Because the duty of nonmaleficence is owed to each individual organism, it would be morally unjustified to harm a larger number of organisms than a smaller num-

cant contribution to human ethics as well as to our understanding of the moral relations between humans and animals.

ber. If a particular act of a certain kind is wrong because it is of that kind, then more wrongs are committed when more particular acts of that kind are done. This is the central consideration that underlies the principle of minimum wrong.

In the light of this consideration we can now see why in general it is worse to harm a species-population than an individual organism, and still worse to harm a biotic community as a whole. We cannot do harm to a species-population without doing harm to a great many of the organisms that make up the population; harming one species-population is not simply doing wrong to one moral subject. Many such subjects, each having the same inherent worth, will also be wronged, namely all the members of the population that are killed or injured. Similarly, by damaging or destroying the ecological balance and integrity on which the well-being of an entire biotic community depends, harm is done to many of the species-populations that constitute the community. A great number of instances of violations of duty are thus involved.

This way of looking at the principle of minimum wrong does not entail a holistic or organicist view of environmental ethics, such as Aldo Leopold's "Land Ethic" or Holmes Rolston's "Ecological Ethic."⁷

The holistic view was critically discussed in Chapter Three in connection with the second component of the biocentric outlook (the natural world as a system of interdependence). What is relevant in the present context is the role that humans should play in relation to the natural world. According to the holistic view, the basic criterion for right action is the tendency of the action to preserve ecological integrity in the natural environment in which the action takes place. From this perspective one begins with the premises that human life is but one component of the

⁷ Aldo Leopold, "The Land Ethic," in *A Sand County Almanac* (New York: Oxford University Press, 1949), pp. 201-26; Holmes Rolston III, "Is There an Ecological Ethic?" *Ethics* 85/2 (January 1975): 93-109. See also Chapter Three, note 5.

Earth's total ecosystem and that ecological integrity has value in itself. One then argues that the proper moral role of humans on Earth is to function in a biologically sound way in relation to the planet's biosphere. Humans are seen to occupy a certain ecological niche and accordingly should govern their conduct so as to maintain a healthy relationship with the worldwide ecosystem of which they are a part. Such a holistic view includes no conception of moral agents having duties that are owed to individual organisms, each of which is regarded as possessing inherent worth.

In contrast with this, the principle of minimum wrong presupposes that each living thing deserves moral consideration. Since each has inherent worth, a *prima facie* wrong is done when any one of them is harmed. It is true that a greater wrong is done when a whole species-population or biotic community is harmed. This is not because the group *as such* has a greater claim-to-be-respected than the individual, but because harming the group necessarily involves harming many individuals. Therefore, whenever we are in circumstances to which the principle of minimum wrong applies we are knowingly committing acts that are *prima facie* wrong. Only if we perform the fewest such acts available to us are we justified in what we do to living things. Our primary obligation in such situations is to choose the alternative which involves the least number of harm-causing acts.

There is, however, a further obligation that is binding upon us in these situations. This obligation must be fulfilled if we are to act consistently with the attitude of respect for nature. It is the duty entailed by the principle of species-impartiality between humans and nonhumans. Since we are aiming at a fair resolution of conflicting claims, whenever we cause harm to animals and plants in the pursuit of our human values, some recognition must be given to the fact that our treatment of them is *prima facie* wrong. This recognition is expressed in practical terms by our accepting the moral requirement to make restitution for the injustices we

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have committed. Even though we may have acted in accordance with the principle of minimum wrong, at least some creatures possessing inherent worth equal to our own have been unjustly treated. As a way of restoring the balance of justice between ourselves and them, some form of compensation must be provided for wild animals and plants. Only when that has been done can the actions we have performed in accordance with the principle of minimum wrong also satisfy the criterion of species-impartiality and so be morally justified, all things considered. (I shall discuss this further in connection with the principle of restitutive justice.)

The moral constraints imposed by the principle of minimum wrong are fully acceptable to the very beings whose actions are so constrained. For they are the agents who have adopted the attitude of respect for nature and who view their relation to the natural world from the perspective of the biocentric outlook. Thus they are disposed to *want* to minimize wrongs done to wild creatures while they pursue ends whose value is so great to them that they are unwilling to give them up. Their respect for nature is not diminished or weakened by their valuing of those ends. So they will readily acknowledge their obligation to adopt the principle of minimum wrong as setting valid moral restrictions upon their own decision and conduct. The principle, in other words, will be one to which they voluntarily subscribe and which they follow as their own normative guide.

What is the practical import of the idea of minimizing harm in the kinds of situations covered by the principle of minimum wrong? I shall consider this question by discussing the three chief ways in which such harm is done: (i) by habitat destruction, (ii) by environmental pollution, and (iii) by direct killing.

(i) *Habitat destruction.* In order for humans to pursue valued ends that are fundamental to their cultural ideals of a high-level civilization and to their individual conceptions of

their own true good, it is necessary that some of the Earth's natural environment used by wild creatures as habitat be taken over for human purposes. Although this is unavoidable, it is still possible for persons, as free and responsible agents, to choose ways of life that minimize habitat destruction. They can make special efforts to avoid ruining complete ecosystems and to desist from annihilating whole communities of life. They can locate and construct their buildings, highways, airports, and harbors with the good of other species in mind. If they have a sufficient concern for the natural world, they can control their own population growth, change their habits of consumption, and regulate their technology so as to save at least part of the Earth's surface as habitat for wild animals and plants.

One way to minimize habitat destruction is to make use of areas that have already been used for human purposes but are now in a deteriorating state or have been abandoned. Rather than encroaching upon land that is still in a natural condition, it might well be possible simply to reoccupy locations that are no longer part of the natural environment. In this way the used areas of the Earth can be "recycled" and wilderness areas can be preserved as habitat for other species. So even if it is the case that some habitat destruction is unavoidable, there is still a duty to choose the least harmful alternative. This is what the principle of minimum wrong requires of us.

(ii) *Environmental pollution.* To pollute the natural environment is to degrade its quality, where the test of degradation is the capacity to be harmful to living things, human or nonhuman. Pollution is necessarily something undesirable from the standpoint of individual organisms. By its very nature it adversely affects the conditions of life on which the well-being of living things depends. Such adverse consequences need not involve harm to humans.

Although it is true that polluting the environment is not an absolutely necessary accompaniment of human culture in the way that habitat destruction is, nevertheless if people are to carry on a high-level civilization based on the steady

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advancement of scientific and humanistic knowledge, if they are to enjoy an aesthetically rich culture, and if the values pursued by individuals are to be the result of their autonomous choice, at least some deterioration of the quality of the natural environment will occur.

It is clear how the principle of minimum wrong applies to these conflicts. To abide by that principle we must do all we can to minimize harm to all concerned, regardless of species membership. This means that we should follow certain general policies to ensure that only the least dangerous forms of pollution will be permitted and to clean up presently polluted environments that are harmful to nonhumans as well as to humans. Of course, the complete avoidance of pollution of any kind would be the ideal condition to seek as our ultimate goal. But there are a number of realistic measures we can take as we pursue that goal. We can recycle waste products or render them biologically harmless before depositing them on land or in water. We can use antipollution devices on automobile exhausts and factory smokestacks to eliminate air pollution. We can prevent the dumping of toxic chemicals and radioactive materials and learn how to detoxify present and past dumping sites. If it turns out that there is no safe way to dispose of certain radioactive and chemical wastes, we must simply cease to produce them.

The moral need for such measures is recognized by all who have concern for the natural environment. What is of special interest here is that these policies and practices are followed not only for the good of humans but also for the good of wild creatures themselves. They give concrete expression to our respect for nature as well as to our respect for persons.

One particularly important aspect of this willingness to make changes for the sake of the good of wild creatures by eliminating environment pollution is the attempt to develop what have been called "appropriate technologies."⁸

⁸ The idea of appropriate technologies was originated by the economist E. F. Schumacher in his well-known book *Small Is Beautiful* (New York:

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These are carefully controlled, small-scale, simplified industrial operations for producing goods and services in ways that are energy-efficient and environmentally clean. By learning to live without the vast scale of mechanization and complex technology typical of modern industrialized societies, we come to enjoy a greater harmony with the natural world. By designing human modes of work and productivity that fit into the natural environment, we do the least possible damage to nature through pollution. In this manner we adhere to the principle of minimum wrong, and the competing claims of both respect for persons and respect for nature are given fair consideration.

(iii) *Direct killing.* A third type of situation of competing claims to which the principle of minimum wrong applies is that in which humans cause the death of wild plants and animals by acts of intentionally killing them. (Such acts are here distinguished from the practices of indirectly bringing about their death through habitat destruction or environmental pollution.) Examples are taking plants and animals from their natural habitats and using them for artistic or educational purposes; collecting specimens of animal and plant life for scientific study; and spraying herbicides and insecticides in wildlife habitats (along highways and power lines, for example). In all such practices humans are going into natural areas and killing animals and plants for certain human purposes. These purposes must be connected with nonbasic interests which are central to a society's way of life or an individual's system of values, if the principle of minimum wrong is to apply.

How does the principle of minimum wrong determine a fair resolution of competing claims in situations of that kind? The following considerations are the relevant ones to be taken into account. First we must ask ourselves whether the human values being furthered are really worth the ex-

Harper and Row, 1973). The theme is further explored in his *Good Work* (New York: Harper and Row, 1979). Many examples of appropriate technologies now in use in countries all over the world are described in George McRobie, *Small Is Possible* (New York: Harper and Row, 1981).

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treme cost being imposed on wild creatures. In this connection we should reflect on our own value system and on the way of life of our community to see whether a modification in values or a shift in perspective could not be made, consistent with the most fundamental aspects of that system or way of life, which would obviate at least some of the direct killing of nonhumans. Secondly, we should examine carefully all alternative possibilities open to us with regard to the manner of pursuing our values and way of life. The principle of minimum wrong demands that we choose the alternative that either eliminates direct killing entirely or that involves the least numbers killed. Finally, our respect for nature makes us respond with abhorrence to whatever killing is done, and gives rise to the recognition of our duty to make reparation or some form of compensation for the harm we have done to living things in the natural world. Our thoroughness, care, and conscientiousness in carrying out these three steps are then signs of the exercise of a sense of fairness in applying the principle of minimum wrong to cases of this sort.

This completes my account of the third priority principle. In the conflict situations classified above as habitat destruction, environmental pollution, and direct killing, we have seen that the general requirement to do least harm, which is laid down by the principle of minimum wrong, is not left entirely vague and unclear. It does yield some guidelines for resolving practical problems. We have also noted the limiting conditions under which the principle is to be applied. Although no simple "Do this," "Don't do that" prescriptions can be derived from the principle, it does serve to focus our attention on the kinds of consideration that are morally relevant.

d. The Principle of Distributive Justice

This fourth priority principle applies to competing claims between humans and nonhumans under two conditions.

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First, the nonhuman organisms are not harming us, so the principle of self-defense does not apply. Secondly, the interests that give rise to the competing claims are on the same level of comparative importance, all being *basic* interests, so the principles of proportionality and of minimum wrong do not apply. The range of application of the fourth principle covers cases that do not fall under the first three.

This principle is called the principle of distributive justice because it provides the criteria for a just distribution of interest-fulfillment among all parties to a conflict when the interests are all basic and hence of equal importance to those involved. Being of equal importance, they are counted as having the same moral weight. This equality of weight must be preserved in the conflict-resolving decision if it is to be fair to all. The principle of distributive justice requires that when the interests of the parties are all basic ones and there exists a natural source of good that can be used for the benefit of any of the parties, each party must be allotted an equal share. A fair share in those circumstances is an equal share.

When we try to put this principle of distributive justice into practice, however, we find that even the fairest methods of distribution cannot guarantee perfect equality of treatment to each individual organism. Consequently we are under the moral requirement to supplement all decisions grounded on distributive justice with a further duty imposed by the fifth priority principle, that of restitutive justice. Since we are not carrying out perfect fairness, we owe some measures of reparation or compensation to wild creatures as their due. As was true in the case of the principle of minimum wrong, recognition of wrongs being done to entities possessing inherent worth calls forth the additional obligation to do what we can to make up for these wrongs. In this way the idea of fairness will be preserved throughout the entire system of priority principles.

In working out the various methods by which the principle of distributive justice can be put into practice, we must

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keep in mind the fact that the wild animals and plants we are concerned with are not themselves harmful to us. Consequently we are not under any necessity to kill them in self-defense. Since they are not "attacking" us, we can try to avoid or eliminate situations where we are forced to choose between their survival and ours. Thus the principle of distributive justice requires us to devise ways of transforming situations of confrontation into situations of mutual accommodation whenever it is possible to do so. In this way we can share the beneficial resources of the Earth equally with other members of the Community of Life. Our aim is to make it possible for wild animals and plants to carry on their natural existence side by side with human cultures.

Sometimes, however, the clash between basic human interests and the equally basic interests of nonhumans cannot be avoided. Perhaps the most obvious case arises from the necessity of humans to consume nonhumans as food. Although it may be possible for most people to eat plants rather than animals, I shall point out in a moment that this is not true of all people. And why should eating plants be ethically more desirable than eating animals?

Let us first look at situations where, due to severe environmental conditions, humans must use wild animals as a source of food. In other words, they are situations where subsistence hunting and fishing are necessary for human survival. Consider, for example, the hunting of whales and seals in the Arctic, or the killing and eating of wild goats and sheep by those living at high altitudes in mountainous regions. In these cases it is impossible to raise enough domesticated animals to supply food for a culture's populace, and geographical conditions preclude dependence on plant life as a source of nutrition. The principle of distributive justice applies to circumstances of that kind. In such circumstances the principle entails that it is morally *permissible* for humans to kill wild animals for food. This follows from the equality of worth holding between humans and animals.

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For if humans refrained from eating animals in those circumstances they would in effect be sacrificing their lives for the sake of animals, and no requirement to do that is imposed by respect for nature. Animals are not of *greater* worth, so there is no obligation to further their interests at the cost of the basic interests of humans.

However, since it is always a *prima facie* duty of environmental ethics not to destroy whole ecosystems (the duties of nonmaleficence and noninterference), it follows that wherever possible the choice of animal food source and the methods used in hunting should be guided by the principle of minimum wrong. The impact on natural ecosystems of the practice of killing wild animals for food must not involve a greater number of wrongs than any available alternative.

The same considerations apply to the practice of culling wild animals for food (as is done with the Wildebeest and the Water Buffalo in Africa) where environmental conditions make it impossible to use domesticated animals or to grow edible plants for human survival. Here the morally right decision is determined, first by the permissibility of consuming wild animals under the principle of distributive justice, and second, by the obligation to choose the species of animal to be taken and the manner of taking them that entail least harm to all the wild living things in the area. Thus severe damage to natural ecosystems and whole biotic communities must be avoided wherever possible.

I turn now to the issue of meat-eating versus vegetarianism, at least as far as the principles of environmental ethics apply to it. There are two main points to be considered. The first is that, when we raise and slaughter animals for food, the wrong we do to them does not consist simply in our causing them pain. Even if it became possible for us to devise methods of killing them, as well as ways of treating them while alive, that involved little or no pain, we would still violate a *prima facie* duty in consuming them. They would still be treated as mere means to our ends and so

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would be wronged. Now, we saw above that it is permissible to kill animals when this is necessary for our survival. But will not the very same be true of our killing plants, in the light of the fact that plants, just like animals, are our equals in inherent worth? Although no pain or conscious suffering to living things is involved here, we are nevertheless using plants wholly for our own purposes. They are therefore being wronged when we kill them to eat them. Yet it is permissible to do this, since we have no duty to sacrifice ourselves to them. Whether we are dealing with animals or with plants, then, the principle of distributive justice applies (and along with it, as we shall see later, the principle of restitutive justice).

Still, the factor of animal suffering does raise important considerations in practice even if no greater wrong is committed in eating animals than in eating plants. Granted that susceptibility to pain does not give animals a higher inherent worth; nevertheless any form of conscious suffering is an intrinsically bad occurrence in the life of a sentient creature. From the standpoint of the animals involved, a life without such experiences is better than a life that includes them. Such a being's good is not fully realized when it is caused to suffer in ways that are not contributory to its overall well-being. We know that this is so in our own case, and must therefore infer that it is so in their case.

Now, insofar as respect is due to sentient animals, moral consideration and concern for their well-being will accordingly include attempts to minimize intrinsic evils in their lives. So when there is a choice between killing plants or killing sentient animals, it will be less wrong to kill plants if animals are made to suffer when they are taken for food.

I consider now the main point regarding the relevance of the principles of environmental ethics to the issue of vegetarianism versus meat eating. It will become clear that, in the light of this second point, anyone who has respect for nature will be on the side of vegetarianism, even though plants and animals are regarded as having the same inher-

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ent worth. The point that is crucial here is the amount of arable land needed for raising grain and other plants as food for those animals that are in turn to be eaten by humans when compared with the amount of land needed for raising grain and other plants for direct human consumption.

Consider, for example, the fact that in order to produce one pound of protein for human consumption, a steer must be fed 21 pounds of protein, all from plant sources. For pork the ratio is 8.3 pounds to one and for poultry, 5.5 pounds.⁹ When spelled out in terms of the acreage of land required, one acre of cereal grains to be used as human food can produce five times more protein than one acre used for meat production; one acre of legumes (peas, lentils, and beans) can produce ten times more; and one acre of leafy vegetables fifteen times more.¹⁰ So the case for vegetarianism based on the attitude of respect for nature comes down to the following: We can drastically reduce the amount of cultivated land needed for human food production by changing from a meat-eating culture to a vegetarian culture. The land thus saved could be set aside as sanctuaries for wildlife, in accordance with the idea of permanent habitat allocation to be discussed below. Ultimately, far less destruction of natural ecosystems than is now taking place would result. Vegetarians, in short, use much less of the surface of the Earth to sustain themselves than do meat-eaters. And the less humans use for themselves the more there is for other species.

We have been considering situations where conflicts between the basic interests of humans and nonhumans are unavoidable, and what implications the principle of distributive justice has for such situations. I now turn to circumstances where it is possible for humans to make certain ad-

⁹ The World Food Problem, a Report of the President's Science Advisory Committee, vol. II, May 1967, p. 249. Full discussion of the problem may be found in Frances Moore Lappé, *Diet for A Small Planet* (New York: Friends of the Earth/Ballantine Books, 1971), part I.

¹⁰ Lappé, *Diet for A Small Planet*, pp. 7-8. See also Singer, *Animal Liberation*, pp. 178-184.

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justments in their relations to wild animals and plants, even when their basic interests are in conflict. In these circumstances some approaches to equality of treatment between humans and nonhumans can be realized. Such approaches consist in our transforming situations of rivalry and competition into patterns of mutual accommodation and tolerance.

I shall discuss four methods for accomplishing this task. These methods are: (i) permanent habitat allocation, (ii) common conservation, (iii) environmental integration, and (iv) rotation.

(i) *Permanent habitat allocation.* This method involves setting aside certain land and water areas of the Earth's surface to be "forever wild." It is the familiar policy of wilderness preservation. The justification for such a policy lies in the fact that only by means of it can at least some of the world's wild communities of life continue their existence in a more or less natural state and so receive their share of the benefits of the Earth's physical environment. By allocating a portion of the surface of the planet to them on a permanent basis, we give concrete expression to our respect for them as entities whose good is as worthy of consideration as our own. We accordingly judge it only fair that wild communities of life be given their place in the sun, along with the works of human civilization. Although we cannot avoid taking some of the natural environment and its resources for our own use, we can still make sure that at least some wild animal and plant communities are able to continue their existence in a natural state, living out their evolutionary destinies free from human interference.¹¹

¹¹ There are also, of course, many human-centered reasons for wildlife preservation. See H. J. McCloskey, *Ecological Ethics and Politics*, chapters 5 and 9; Donald H. Regan, "Duties of Preservation"; Terry L. Leitzell, "Extinction, Evolution, and Environment Management"; and Bryan G. Norton, "On the Inherent Danger of Undervaluing Species." The last three papers are available from The Center for Philosophy and Public Policy,

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(ii) *Common conservation.* The method of common conservation is the sharing of resources while they are being used by both humans and nonhumans. If people have built a town in a desert or other area where there is a very limited supply of water, the policy of common conservation would mean that humans share the water supply with other species-populations that need it for their survival. The plants of the desert as well as the birds, reptiles, insects, and mammals that live there are all recognized as legitimate users of the water supply along with people. The basic idea is that we do not take it all for ourselves but leave some of it for others, who need it as much as we do.

Conservation is a human practice, but it need not be carried on for the benefit of humans alone. There is nothing in the meaning of conservation that excludes its being done to help other creatures further their well-being. As moral agents we have the freedom to choose to make available to others a portion of a natural resource that we also must use for our own good. Conserving a resource, whether it is renewable or nonrenewable, means using it carefully and wisely, saving some for the future when it will be needed as much as at present. None of it is wasted or rendered unfit for use by pollution. *Common conservation* refers to a human practice of sharing the use of a resource with others, conserving it for the mutual benefit of all.

Common conservation dictates that, if we are to distribute the benefits of nature to all who deserve them, we must make available to nonhuman species as well as to other members of our own species the things they and we need

University of Maryland, and appear in Bryan G. Norton, ed., *The Preservation of Species: The Value of Biological Diversity* (Princeton, N.J.: Princeton University Press, 1986). Norton discusses some differences between human-centered and life-centered reasons for wildlife preservation in "America's Public Lands: To Use or Not to Use," *Report from the Center for Philosophy and Public Policy* 3/3 (Summer 1983): 9-12. See also "Why Farewell to Plants and Animals?" chapter I of Albert J. Frisch and Science Action Coalition, *Environmental Ethics: Choices for Concerned Citizens* (New York: Doubleday Anchor Books, 1980), and William Godfrey-Smith, "The Value of Wilderness," *Environmental Ethics* 1/4 (Winter 1979): 309-319.

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to fulfill basic interests. When there is competition for a limited resource, we must not appropriate all of it for ourselves alone. To do that would be to take something that rightfully belongs to all. The least that we humans can do in recognition of the equal inherent worth of all creatures on Earth is to assign some portion of what we all need to those who cannot demand or obtain it for themselves. Whatever source of good is common to a number of species must accordingly be shared if the due claims of all are to be justly dealt with.

(iii) *Environmental integration.* This is the deliberate attempt to fit human construction and "developments" into natural surroundings in a way that preserves the ecological integrity of a region as a whole. Office buildings and stores, factories and warehouses, hotels and motels, houses and apartment complexes, airports and highways, schools and libraries, bridges and tunnels, and other large-scale human artifacts are designed and located with a view to avoiding serious ecological disturbance and environmental degradation. Natural areas in the region that are essential for ecological stability are left unmodified. Thus certain habitats used by wild species-populations are not destroyed, and some wildlife is given a chance to survive alongside the works of human culture.

When artificial ecosystems are laid out in natural surroundings, the boundary areas can be planned so that various animals can pass across them and some wild trees, shrubs, and other plants can propagate themselves on both sides of the boundary. Certain species-populations may then create their own habitats in the physical environments that have been set out by humans for their own purposes. Thus birds come to nest in neighborhood trees, turtles and frogs inhabit ornamental ponds, insects pollinate the cultivated flowers of gardens, native species of trees grow along the edges of lawns, and microorganisms by the millions live in the soil. Many forms of wildlife can in this way pursue their natural cycles of life in unnatural environments. Such human developments as golf courses, recreational lakes,

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parks and picnic grounds, suburban housing, seashore and mountain resorts may all be planned with this in mind.

The following list gives a brief indication of a few among the many specific measures that human communities can adopt to preserve and bring about environmental integration in their localities. (Most of these measures are considered by communities under the rubric of "land use planning.")

(1) Natural drainage systems are kept intact and underground aquifers are protected from contamination. Streams are left free-flowing. The original vegetation is allowed to grow on hillsides. No construction is permitted in flood plains.

(2) Special consideration is given to the various types of soil in the area to avoid flooding, sewage problems, and other environmentally damaging effects of human disruption of the natural land.

(3) Construction is controlled and in certain areas prohibited to provide "open space." Stretches of woodland, marsh, sand dunes, rocky slopes and escarpments, and the like are zoned to be left as they are.

(4) In agricultural regions the use of artificial fertilizers and chemical pesticides is restricted. Organic farming is encouraged.

(5) Small-scale technology is preferred to large-scale.

(6) Antipollution devices are required to eliminate air pollution. Dumping of toxic wastes is forbidden. Nontoxic waste is kept to a minimum and whenever possible a system of recycling waste is set up. Past pollution of the land or water in the locality is cleaned up.

(7) Nonrenewable resources are consumed sparingly and new techniques for the most efficient use of renewable resources are adopted.

These are all examples of ways in which the environmental soundness of a developed region can be implemented and preserved. Such measures benefit wild animals and plants and can be adopted as a means to that end, as well as

being intended for human benefit. Thus environmental integration is a method that can be used in working toward the ideal of a fair distribution of beneficial resources to be shared by humans and nonhumans alike. Although full equality of treatment is not thereby achieved, serious consideration is given to the well-being of wild living things and practical steps are taken to ensure that at least some of their basic interests are provided for. At the same time that the basic interests of humans are being furthered, those of nonhumans are also being protected.

(iv) *Rotation*. The fourth method of distributing benefits fairly is the method of rotation or "taking turns." The rule is that whenever possible (that is, whenever it can be done consistently with all other valid ethical principles applicable to the situation) we should give the species-populations of a wild biotic community their chance at receiving benefits from inhabiting a particular sector of the Earth's natural environment if we humans have also benefited, for a period of time, by fulfilling our interests in that place. It is only fair that humans and nonhumans take turns at having access to favorable environments and habitats. We might think of this as *time allocation* for a given place, to contrast it with the method of permanent wilderness preservation, which is a form of *space allocation*.

The general scheme of a rotation system works as follows. Suppose there is an area of the natural environment that can be used for satisfying the basic interests of *a certain number of humans for a limited time* without destroying the biological soundness of the ecology of that area. The environment and its living inhabitants are treated in such a way that it is possible at a later time for a wild community of life to satisfy *its* basic interests in the area. By occupying the area at different time periods, both humans and nonhumans can meet basic needs. Under these circumstances a rotation system requires that the nonhuman life community be granted exclusive access to the area for suitable, ecologically functional periods of time, to be alternated with

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other periods when humans are given access to the area. In this way there is a fair distribution of benefits to both humans and nonhumans in a given part of the environment over time. The following situations illustrate how a rotation system might apply to various types of environments.

(1) Suppose certain minerals are needed for the manufacture of machines and instruments used in the treatment of human diseases. If mining is carried out in a particular mountainous region for a limited time (say, fifty years), these needed minerals can be obtained. Let us further suppose that the mining operation is so controlled that restoration of the original conditions and contours of the land can be approximated after the mineral resource has been exhausted. The rotation principle would then require such restoration, after which the area would be left as a sanctuary for wildlife.

(2) Scuba diving for purposes of scientific observation and collecting specimens of marine life for research might be allowed along a coral reef in tropical waters (assuming that the scientific knowledge gained would be used to meet basic human needs). Then at a later time the undersea area could be set aside as a natural marine preserve, not to be interfered with by humans.

(3) There may be places where some temporary housing or other structures can be located without permanent ecological damage to the natural environment. At a later time, when already-used land in urban or suburban areas becomes available for permanent housing or other construction, the temporary buildings can be removed and the environment allowed to return to its natural condition.

(4) During periods of a severe drought an unspoiled lake could be used by humans for a supplementary water supply. Then as a normal rainfall resumes, the lake could be left alone to refill and again become the habitat of a viable life community.

(5) A saltwater marsh might be designated for a certain period as a place to obtain clams, oysters, and other marine

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organisms for human consumption, and then set aside for the same length of time as a wildlife preserve. Afterwards, it might again be open to human use, and then again closed off, and so on indefinitely.

It should be clear from these examples that all the human activities mentioned would require strict monitoring and control for the various rotation schemes to work. However, if the people who engaged in those activities had adopted the attitude of respect for nature (which is being assumed here), they would be willing to be monitored and have their activities controlled. Indeed, they would autonomously discipline themselves and exercise self-restraint in order to make sure that they were not abusing the area to the extent of making it unfit for other creatures at a later time. Out of their respect for nature they would adhere to the priority principle of distributive justice, considering it only fair that other living things have their chance to receive the benefits of nature in the given location. Since the human agents involved would then voluntarily place self-imposed limits on their actions out of consideration for the good of wild living things, the various rotation systems could be said to embody both the attitude of respect for persons and that of respect for nature.

The policies and practices of permanent habitat allocation, common conservation, environmental integration, and rotation show how it is possible to transform what would otherwise be situations of confrontation between humans and nonhumans on the level of basic interests into various means of mutual accommodation. These conditions provide an answer to what at first glance may have appeared to be absurd—that wild animals and plants have an inherent worth equal to that of humans. How could such a position ever make sense, when it is obvious that in order to maintain life humans must consume at least some non-human organisms? I hope to have shown that, through conscientious effort enlightened by scientific knowledge of ecology and other related fields (now sometimes called the

"environmental sciences"), humans who have respect for nature can devise ways to bring about at least an approximation to a fair distribution of benefits between wild living things and humans themselves. By means of the four methods discussed above a relationship of "live and let live" can replace a life-and-death struggle. The competition between the realization of human values and the ability of wild biotic communities to sustain their natural existence can at least sometimes be overcome.

The ideal of justice in all this is to distribute benefits and burdens equally among the parties. Fair shares are equal shares. We have seen that this ideal is never wholly realizable. Even when the conflict situations are amenable to the four methods, the actions of moral agents always fall short of treating each organism, human or nonhuman, with perfect equality of consideration. The principle of distributive justice, therefore, must be supplemented by another priority principle, that of restitutive justice.

e. The Principle of Restitutive Justice

The idea of restitutive justice (restoring the balance of justice after a moral subject has been wronged) was considered twice before in this book. In Chapter Four it was included as the fourth basic duty of the ethical system of respect for nature. In Chapter Five it was mentioned in connection with human rights, where I argued that when one person's rights are in conflict with another's and it is not possible to accord to both what each has a right to, the one whose rights are infringed is owed a special duty of compensation. As a priority principle in our present context, the principle of restitutive justice is applicable whenever the principles of minimum wrong and distributive justice have been followed. In both cases harm is done to animals and plants that are harmless, so some form of reparation or compensation is called for if our actions are to be fully consistent with the attitude of respect for nature. (In applying the minimum wrong and distributive justice principles, no harm is

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done to harmless *humans*, so there occurs an inequality of treatment between humans and nonhumans in these situations.) In its role as a priority principle for determining a fair way to resolve conflicts between humans and nonhumans, the principle of restitutive justice must therefore supplement those of minimum wrong and distributive justice.

What kinds of reparation or compensation are suitable? Two factors can guide us in this area. The first is the idea that the greater the harm done, the greater the compensation required. Any practice of promoting or protecting the good of animals and plants which is to serve to restore the balance of justice between humans and nonhumans must bring about an amount of good that is comparable (as far as can be reasonably estimated) to the amount of evil to be compensated for.

The second factor is to focus our concern on the soundness and health of whole ecosystems and their biotic communities, rather than on the good of particular individuals. As a practical measure this is the most effective means for furthering the good of the greatest number of organisms. Moreover, by setting aside certain natural habitats and by maintaining certain types of physical environments in their natural condition, compensation to wild creatures can be "paid" in an appropriate way.

The general practice of wilderness preservation can now be understood as a matter of fairness to wild animals and plants in two different respects. On the one hand it is a practice falling under the principle of distributive justice, and on the other it is a way of fulfilling the requirements of restitutive justice. In its first aspect the preservation of wilderness is simply a sharing of the bounties of nature with other creatures. We allocate certain portions of a source of good so that all receive some benefit. What portions are fair cannot be determined in a piecemeal fashion. It is necessary to envision a whole Earth exemplifying a condition of fundamental harmony between nature and human civilization.

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The overall order determines what areas of wilderness, what ecosystems and biotic communities, are to be preserved. (Shortly, I shall discuss in greater detail this vision of an ethically ideal world.)

In a second respect the fairness of wilderness preservation derives from its suitability as a way of compensating for the injustices perpetrated on wildlife by humans. To set aside habitat areas and protect environmental conditions in those areas so that wild communities of animals and plants can realize their good is the most appropriate way to restore the balance of justice with them, for it gives full expression to our respect for nature even when we have done harm to living things in order to benefit ourselves. We can, as it were, return the favor they do us by doing something for their sake. Thus we need not bear a burden of eternal guilt because we have used them—and will continue to use them—for our own ends. There is a way to make amends.

This concludes my examination of the five priority principles for the resolution of competing claims arising from conflicts between humans and nonhumans. The most significant implication of the foregoing investigation is that it gives a reasoned reply to the charge that biotic egalitarianism must break down when it comes to conflicts between humans and other species. I have tried to show that there are various methods for resolving such conflicts in ways that extend fairness to all by giving due recognition to the equal inherent worth of every living thing. In the light of this discussion, we may at least accept the possibility of a life-centered theory of environmental ethics that gives impartial consideration to every species. Such a view, I submit, does not reduce to absurdity in the face of ineluctable biological competition. The five priority principles provide a systematic foundation for the concept of interspecific justice in those situations where the interests of organisms belonging to different species cannot all be fulfilled. In this

way the "struggle for survival" is replaced by the constraints of a moral order defined by rational principles of justice.

4. The Ethical Ideal of Harmony between Human Civilization and Nature

I pointed out earlier that the foregoing priority principles do not make up a logically complete system which can tell us what we ought to do in every situation of conflict between duties of human ethics and those of environmental ethics. There will always be some cases of conflict in which the right thing to do is undecidable. In those cases we simply do not know what would be a fair way to resolve a situation of competing claims, since the principles give no clear indication of what priorities to assign. The immediate question then arises: Must we make an arbitrary decision in those cases, letting the resolution we adopt be randomly chosen?

We can avoid arbitrariness and randomness in these situations, I suggest, by referring to our total picture or vision of what kind of world order would be ideal according to the structure of normative principles we have accepted. In the light of this unified and comprehensive vision we have guidance in our search for a resolution to such conflicts. For we are in search of a resolution that fits coherently into the total world order pictured as ideal. This "coherent fit" means not only that our decision is not incompatible with the general nature of that world order, that is, with its pervading, deep, and salient characteristics; it also means that the decision tends to clarify and reinforce those characteristics. The characteristics in question are those that make that world order the kind of condition of life and environment at which we would all aim as an ideal that is truly worthy of being pursued if we were committed to the total set of rules and standards contained in the systems of human ethics and environmental ethics propounded earlier in this

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book and to the priority principles discussed in the preceding sections.

The ideal gives us an imaginative picture of what it would mean for all moral agents to exemplify in their character and conduct the two attitudes of respect for persons and respect for nature. The most apt phrase for describing this "best possible world" in its simplest terms is: *a world order on our planet where human civilization is brought into harmony with nature*. By understanding what "harmony" means as used in this phrase we can better grasp the central features of the content of the ideal. But first we must consider what is covered by the term "human civilization."

Human civilization is to be taken here as equivalent to the total set of cultures on Earth at any given time. In an ethically ideal world where all cultures are in harmony with nature, it is understood that each carries on its way of life *within the constraints of the human ethics of respect for persons*. Thus in each community, individuals and organizations pursue their varying interests without violating each other's moral rights. At the same time they are bound by the laws and directives of legal and political systems that make their rights secure. However varied may be their beliefs about reality, whatever might be their understanding of the meaning of their history and traditions, whatever religious beliefs they might accept, and however they might conceive of the kinds of life most worth living, their beliefs and values do not conflict with the fundamental moral attitude of respect for persons.

Similarly, when we turn to the cultures' ways of regarding nonhuman living things and their views concerning the proper place of human life in the natural world, we may again have great variation in what constitutes human civilization in the ethical ideal. But this variation must always be consistent with the attitude of respect for nature. Whether a culture accepts a mystical view of the identity of the human soul with the world-soul or looks at the relation between human and other forms of life in some nonmysti-

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cal way (romantic primitivism, religious transcendentalism, animism, Earth-stewardship, existential alienation, or what not), the belief-system in question must allow the attitude of respect for nature to be adopted and put into practice. Although some or all of the elements of the biocentric outlook may not be accepted as part of a culture's own world view, the outlook on nature it does have must not lend support to an exploitative attitude toward wild living things or any other attitude incompatible with that of respect. Thus it is perfectly possible in the ethically ideal world that there be religious communities, having either monotheistic or polytheistic beliefs, according to which God or the gods command that humans love and care for all the Earth's wild creatures. A mysticism in which the highest state of human consciousness is understood as a matter of having one's self become one with the natural world is also quite compatible with the moral attitude of respect for nature. The biocentric outlook is a rational and scientifically enlightened way of conceiving of the place of humans in the natural world, but it need not be the only world view accepted by cultures when the ethical ideal of harmony between human civilization and nature is achieved.

In order further to clarify the content of the ideal, the notion of harmony must be explained. As it is used here "harmony" means the preserving of a balance between human values and the well-being of animals and plants in natural ecosystems. It is a condition on Earth in which people are able to pursue their individual interests and the cultural ways of life they have adopted while at the same time allowing many biotic communities in a great variety of natural ecosystems to carry on their existence without interference. Whatever harm comes to the individual members of those communities results from the ongoing processes of evolution, adaptation, and natural changes in environmental circumstances, not from human actions.

In this ethical ideal our role as moral agents is to direct and control our conduct so that, with regard to animals and

plants living in the wild, we comply with the four basic rules of environmental ethics (as set forth in Chapter Four). Although we cannot avoid some disruption of the natural world when we pursue our cultural and individual values, we nevertheless constantly place constraints on ourselves so as to cause the least possible interference in natural ecosystems and their biota. The realm of nature is not considered as something to be consumed, exploited, or controlled only for human ends, but is shared with other creatures. Although one part of human civilization, the bioculture, does consist in making use of other living things for the benefit of people, no such relationship of dominance and subordination is found in the human treatment of the creatures of the wild.

Not only are different areas of the Earth's surface apportioned to humans and to wild communities of life, but an allocation of time periods is worked out with regard to certain favorable habitats so that humans and nonhumans can take turns in benefiting from the use of those habitats. Balance is further shown in the policy of "common conservation," where certain resources of nature are shared by humans and nonhumans alike. In these and other ways the ethically ideal world is seen to be a place where the good of nonhumans can be realized along with the (partly controlled) fulfillment of human values.

5. The Normative Function of the Ethical Ideal

I shall conclude with a brief account of the way in which the ethical ideal described above functions normatively in the practical decision making of those who accept it. The main function of the ideal is to provide a focus for practical goals. It does this by specifying a kind of world order whose gradual realization is the permanent long-range moral purpose behind the exercise of instrumental rationality by moral agents. In getting a clear grasp of the content of the ideal, agents know the overall direction they wish to take in set-

ting practical goals. The immediate tasks they set for themselves are aimed at changes in the actual world that they believe will make it more closely approximate the ideal world as they conceive of it. It is because they envision the final outcome of their endeavors in terms of the ethical ideal that they use their factual knowledge the way they do in choosing practical ends and the best means to those ends. (The goal of increasing their factual knowledge when needed in these endeavors is, of course, one of their most important practical ends.)

The ethical ideal not only clarifies the ultimate end for instrumental rationality, but also, as it were, lends value to it. The goals that moral agents set for themselves in pursuing the gradual realization of the ideal are judged to be *worthy* of their best efforts because the ethical ideal itself represents a *summum bonum* (the greatest good). Achieving the immediate, practical goals has only instrumental value. The ends and means are sought not for their own sake but for the sake of the ideal, that is, for the sake of making the world a better place by bringing it one step closer to what it should be. The world so changed is judged to be better than what it would have been without the change precisely because the ethically ideal world contains as much good (both moral and nonmoral) as is empirically possible for our world to contain.

The normative function of the ethical ideal as a focus for instrumental rationality in the lives of moral agents must not be thought of as *replacing* the system of reasons-for-action already in place in their lives in virtue of their having adopted the attitudes of respect for persons and respect for nature. Whatever ways moral agents devise to change the actual world in the direction of greater harmony between civilization and nature, the means they take to do this must never violate those basic moral constraints imposed by respect for persons and for nature. Persons and other living things must not be looked at merely in terms of their actual or potential usefulness in bringing about a future world

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closer to the ideal. Their duties as moral agents cannot be overridden by their instrumental rationality. The process of bringing about ever closer approximations to the ideal is itself a moral process. To accomplish a good end, evil means must not be used, when the evilness of the means consists in the performance of actions that are wrong, all things considered. It is only within the boundaries set by the rules of duty of human ethics and environmental ethics that acts performed as "best means" toward ends in the realization of the ethical ideal are permissible

I hope the entire investigation of the Ethics of Respect for Nature presented in this book has made it clear that people *can* put this ethics into practice. A world of harmony between human civilization and nature, when structured in the way indicated by the foregoing analysis, is a distinct empirical possibility. Although I have not proposed any political, legal, or economic changes in the world's present cultures as specific measures that must be taken to make a start in the direction toward the ethical ideal, it should be evident from my discussion of the biocentric outlook and the attitude of respect for nature that an *inner* change in our moral beliefs and commitments is the first, indispensable step. And this inner change is itself a psychological possibility. Some people have actually made such a change, exercising their autonomy in the decision to adopt new moral principles regarding their treatment of the natural environment and its living inhabitants. They have accepted at least the rudiments of a life-centered outlook in the domain of environmental ethics. Thus the moral shift from anthropocentricity to biocentricity is not psychologically impossible for human moral agents to accomplish.

In this connection we must not confuse the difficulty of a task with its impracticability. There should be no illusions about how hard it will be for many people to change their values, their beliefs, their whole way of living if they are

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sincerely to adopt the attitude of respect for nature and act accordingly. Psychologically, this may require a profound moral reorientation. Most of us in the contemporary world have been brought up in a thoroughly anthropocentric culture in which the inherent superiority of humans over other species has been taken for granted. Great efforts will be needed to emancipate ourselves from this established way of looking at nonhuman animals and plants. But it is not beyond the realm of practical possibility. Nothing prevents us from exercising our powers of autonomy and rationality in bringing the world as it is gradually closer to the world as it ought to be.