
Justice: The Heart of Environmentalism

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Asking people what environmentalism is elicits diverse answers. Some people think of it as the practice of engaging in various activities from recycling to hunting. Others think of it as supporting pressure groups ranging from the National Wildlife Federation to the Earth Liberation Front. For many of my students, environmentalism implies activism. Even those who are vegetarian backpackers are often reluctant to call themselves environmentalists, for they see themselves as lazy or lacking commitment. Yet, according to surveys, most Americans are willing to identify themselves publicly as environmentalists or environmentally concerned,¹ even those who vote for environmentally abusive candidates. I remember how surprised I was when I moved from Colorado to Minnesota to discover that Minnesota "greens" held more or less the same views as Colorado "browns." In Minnesota, members of the "bait and bullet" crowd are considered environmentalists, whereas in Colorado they are the "wise use" antienvironmentalists.

Asking this question internationally produces an even wider array of answers. Some who claim to speak for the developing world will tell you that environmentalism is a meaningless concept where they come from, because people do not distinguish themselves from nature, or (alternatively and inconsistently) they sometimes say that people in the developing world see nature as a resource. In many European countries "greens" have replaced "reds" on the left of the political spectrum. Once I asked a European friend of mine about the background of his country's new environment minister. "He was an ultra-left terrorist before he was a green," my friend said, exaggerating only slightly.

In this chapter I am not going to address the entire heterogeneous domain of environmentalism. My target will be American environmentalism. I will suggest that it has two distinct sources and that this accounts for some of the uneasiness one finds in the movement. A focus on justice, I claim, can reconcile these perspectives across a broad range of issues. In this respect it can be said that justice is both conceptually and historically at the heart of environmentalism. Justice also gives environmentalism a heart in the sense of motivating people to make change and taming the movement's tendency toward misanthropy and pessimism. The heart is not the whole of an organism, however, and justice does not exhaust environmentalism. There are unruly features of the human relationship to nature that express themselves in both environmentally friendly and environmentally destructive ways. Any attempt to provide even a partial map of American environmentalism must also acknowledge these features.

Think Globally, Act Locally

The American environmental movement can be seen as having two distinct dimensions. One has its source in nineteenth-century movements for community beautification and public hygiene; the other has its source in global concerns about conservation and preservation. The former tradition evolved from a focus on public health to a broader concern with ecological identity and a sense of place. It finds its expression in the work of writers such as Edward Abbey and Wendell Berry. Its signature issues include Love Canal and the construction of the Glen Canyon Dam. The latter tradition came to prominence in the 1970s with the publication of such books as *The Limits to Growth*. Its heroes are scientists such as Paul Ehrlich and E. O. Wilson, and it sees climate change and biodiversity loss as the central environmental issues.

These traditions express very different attitudes toward authority and democratic participation. Those whose environmentalism is motivated by a sense of place tend to be mistrustful of science and management. They see environmental problems as largely caused by failed attempts to manage complex systems and are skeptical of the idea that even more intensive management is the solution to these failures. Those who focus on global change issues as the most serious threats tend to put their faith

in science. They point out that it is scientists who have alerted us to climate change and the biodiversity crisis, and it is they who are most credible when it comes to solutions.

These perspectives are not only distinct; they are in some ways quite antithetical. For place-based environmentalists the turn to scientific management, rather than being a solution, is another iteration of the same problem. As Berry writes, "Properly speaking, global thinking is not possible." Those who have claimed to think globally, he writes, have imposed "simplifications too extreme and oppressive to merit the name of thought."² Partisans of the global perspective, on the other hand, say that what is needed to protect nature are objective scientific managers who take the long view and are insulated from the emotional storms of local politics that often result in myopic and selfish policies. We can dramatize these differences by saying that those who focus on the global are modernist progressives who valorize science, whereas those who act from place-based concerns are antimodernists, deeply mistrustful of science, and generally pessimistic about the prospects for rational management.

Although this division is deep and profound, it is easy to overlook, because many environmentalists drink from both wells. Indeed, the most important environmental writers, such as Aldo Leopold and Rachel Carson, can reasonably be claimed by both sides. Both Leopold and Carson were trained as scientists, and their writing reflected the abstract, generalized concerns of scientific thinking. At the same time, however, both were in love with particular places that they wrote about with great passion and power.

These two dimensions of environmentalism mingle almost completely when it comes to opposing environmentally destructive initiatives. Greens of various shades can unite in their opposition to nuclear power, sprawl, and the opening up of wilderness areas to development, because they can be seen as either characteristic expressions of science and technology or perverted expressions of them distorted by political corruption and human irrationality. This unity in opposition can obscure the fact that environmentalists share very little by way of positive images of how humans should relate to nature. Far from visionary, environmentalists are better at opposition and obstruction than at creating and articulating positive views.

A ruling vision sourced in an idea of justice can help bring these perspectives together. Consider, for example, how their different views of scientific authority might be treated. Rather than viewing science as the whole of the problem or the entirety of the solution, a perspective that centers on justice would see it as another active participant in the negotiating process. A vision informed by considerations of justice would help us to see science as an institutional agent with important powers and capacities, but also its own interests. Once we see things in this way, science can be spared the full credit or full blame for epistemological closure or conflict. Rather than causing the lack of consensus about environmental policy, the fissures in science will themselves be seen as part and product of larger normative conflicts (Jamieson 1996).

The Environmental Justice Movement

The idea of environmental justice burst into the American consciousness in 1982, when there were more than 500 arrests in the largely African-American community of Afton, North Carolina, during a campaign of nonviolent civil disobedience directed toward preventing the disposal of PCB-laced soil in the Warren County landfill. Among those arrested was Congressman Walter Fauntroy, who subsequently asked the United States General Accounting Office (GAO) to study the racial demographics of hazardous waste siting. Both the GAO study and a larger research effort mounted by the United Church of Christ came to the conclusion that people of color and the poor disproportionately bear the environmental costs of a highly consumptive, affluent society.³

Since these events, a growing academic literature on these questions has developed, but in America the idea of environmental justice has come to be identified with the social movement that protests toxic waste siting, excessive pesticide use, and contamination of air and water on Indian reservations, among Latino farm-workers, and in poor white and African-American communities. By the early 1990s, the environmental justice movement had become so influential that President Clinton established an office of environmental justice as part of the Environmental Protection Agency, and on February 11, 1994, he signed

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations."

From the beginning, there were concerns about the appropriation of the language of environmental justice on behalf of a social movement directed toward promoting the interests of minority groups in America. For most philosophers and theorists, justice involves impartiality and universality and thus moves in the direction of a global perspective. Particular groups may struggle to be treated justly, but this is not the same as struggling to implement a conception of justice. In recent years important elements of the environmental justice movement have begun to organize around broader issues with global import,⁴ but constructing a full account of environmental justice very much remains a work in progress.

Dimensions of Environmental Justice

Some may find the very idea of environmental justice strange, for they may think of the environment as a kind of amenity that one may purchase more or less of, depending on one's preferences and resources. On this view environmental quality is like cultural institutions or sports facilities; its allocation is a matter of discretion, not of justice.

Contrary to this view, at least thirty-three nations and twelve American states now recognize a constitutional right to environmental quality.⁵ Environmental preservation is increasingly seen as central to human flourishing, and in some cases a matter of life and death. It is also becoming clear that the overconsumption of the earth's resources by some condemns others to poverty. When seen in this way, it seems undeniable that many environmental concerns involve questions of justice.

But what exactly is environmental justice? Aristotle distinguished two types of justice: distributive justice and corrective justice. Distributive justice concerns how various benefits and burdens should be distributed; corrective justice is about punishment and compensation. Although it is plausible to suppose that some instances of environmental justice involve corrective justice,⁶ the larger temptation is to think of environmental justice as primarily a kind of distributive justice.⁷ On this view the environment is a resource whose distribution should be governed by principles

of justice. Because many aspects of the environment cannot physically be transferred from one community to another, this view is more precisely thought of as advocating the distribution of the benefits and costs of environmental resources according to principles of justice. From this perspective environmental resources are in principle no different from money, food, health care, or other distributive goods over which people have claims of justice. It is an open question as to how exactly environmental resources are defined, how benefits and costs are assessed, what principles of justice are appropriate for governing their distribution, and who are the subjects and beneficiaries of these duties.

The idea that duties of environmental justice are global in scope has been around since the 1970s. At the United Nations Conference on the Human Environment in Stockholm in 1972, the notion of global environmental justice was introduced as the developing world's answer to the industrialized world's growing concern to preserve pure environmental goods such as species and ecosystems, many of which exist primarily in developing countries.⁸ The idea began to gain traction in 1991 with the publication of *Global Warming in an Unequal World: A Case of Environmental Colonialism* by the Indian environmentalists, Anil Agarwal and Sunita Narain.

Poor countries often argue that rich countries committed various environmental injustices in the process of their development and continue to commit injustices by appropriating more than their share of the earth's resources. For example, they point out that, not only is the United States the world's largest emitter of greenhouse gases, but its annual increases since 1990 have been greater than those of any other country except China. On a per capita basis Americans emit twenty-two times as much carbon dioxide as Indians, eleven times as much as Brazilians, and eight times as much as Chinese.⁹

Viewing global environmental issues from the perspective of distributive justice can certainly be a useful analytical approach, as the case of greenhouse gas emissions illustrates. The Framework Convention on Climate Change, which now has been ratified by 189 countries, including the United States, commits the parties to the goal of stabilizing "greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."

There are many ways of reaching this objective, but any successful attempt would impose costs in foregone development opportunities and in economic and social restructuring. Different regimes would distribute these costs differently. One approach would be to establish an annual global ceiling on greenhouse gas emissions, allocate permissions to emit, and then allow unlimited emissions trading. This approach would be highly efficient, but whether it would be just would depend to a great extent on how permissions to emit are initially allocated.¹⁰ Viewing this as a problem of distributive justice is a useful analytical approach because it invites discussion of the issues that matter most, rather than shunting them off into a technical dead end. Although ordinary people are excluded from abstract discussions of atmospheric physics and chemistry, the language of justice implicated in discussions of the distribution of greenhouse gas emissions is one with which everyone can identify.

However useful and intuitive it may be to see global environmental problems in this way, it is also clear that the idea of environmental justice is not exhausted by the notion of distributive justice. In an insightful early article on the American environmental justice movement, Iris Marion Young argued that it was participatory justice, not distributive justice that was the primary demand of communities such as Afton, North Carolina.¹¹ People objected not only to the fact that they were being subjected to risks, but also to exposure without their consent and without institutional mechanisms that would allow them to articulate their opposition. This was also the case in the late 1970s at Love Canal in New York state, when white working-class homeowners became so frustrated by the lack of governmental responsiveness to their concerns that they detained officials from the United States Environmental Protection Agency who had come to allay their fears about the fact that their community was built on top of a toxic waste dump.¹²

The centrality of participatory justice to environmental justice is also indicated by the fact that the "Principles of Environmental Justice" (appendix A), adopted by the First National People of Color Environmental Leadership Summit in 1991, emphasized self-determination and respect for diverse cultural perspectives rather than distributive justice. Indeed, distributive justice is mentioned in only two of the seventeen principles adopted by the summit.¹³

Participatory justice is also important at the global level. Those who suffer most from environmental insults are often not at the table. For example, rising sea levels caused in part by climate change are likely to destroy completely such countries as Sao Tome and Principe, Kiribati, Maldives, and Tuvalu. Because their land mass will be underwater, these countries may literally cease to exist.¹⁴ Other small countries in the Caribbean and elsewhere will be ravaged by more intense, and perhaps more frequent, storms and hurricanes. Seventy million farmers and their families in Bangladesh will lose their livelihoods when their rice paddies are inundated by seawater. Yet despite the vast number of people around the world who will suffer from climate change, most of them are not included when decisions are made. Indeed, to a great extent, the United States has set the world on this course through its own unilateral action.

Poor people and those who live on the margins are effectively voiceless in many environmental debates. In some cases participation is denied not because of institutional or political failure, but because those in question are not recognized as in the domain of justice. Historically, at various times and places, slaves and women have been denied justice not only in the sense that they have borne disproportionate burdens or that their voices have been muted, but also in that they have not been regarded as the proper subjects of justice. This explains why so much of the rhetoric of the American civil rights movement centered on asserting the "humanity" (or "manhood") of African Americans. African Americans were not only denied their fair share, but were also excluded from the community over which justice was supposed to prevail.

Poor people and those at the margins are not alone in being disenfranchised. Future generations are not at the table to defend their interests, and the use of standard decision-theoretic tools such as the discount rate is often used to effectively dismiss even their most important interests. Again, this can be seen clearly in the case of climate change. It is rich people currently alive who reap the greatest share of the benefits of emitting greenhouse gases. It is poor people who will live in the second half of this century and beyond who will bear most of the burdens. It is difficult to believe that we would behave so irresponsibly if we had to defend our actions directly to those who will suffer from them.¹⁵

Some of those who speak of global environmental justice also believe that we owe duties of justice to other entities that cannot speak for themselves: individual plants, individual animals, populations, species, ecosystems, geological formations, or even planets. Various cases are made for including such entities in the domain of justice, but they typically appeal to criteria of inclusion such as naturalness, wildness, teleological organization, and sentience.¹⁶ Although there are many difficult and controversial issues here, it seems clear that the case for recognizing duties of justice to some non-human animals is as strong as the case for recognizing such duties to some human animals. The other great apes, for example, have complex social systems and lives that can go better or worse in a way that matters to them. The same reasons that we have for recognizing duties of justice to some humans apply to them as well. Once this point is recognized it becomes clear that many other nonhuman animals also qualify as beneficiaries of duties of justice.¹⁷

I have claimed that a clear and consistent concern with duties of environmental justice will go beyond the confines of our domestic communities and encompass the globe. It will also project from the present into the future, and include posterity. Finally, it will encompass a great deal of the "more than human world."¹⁸ Having said this, however, I also believe that the bounds of justice will not exhaust our relationship to nature.

Beyond Justice

Justice is at the center of environmentalism, but there are two ubiquitous attitudes toward nature that cannot perspicuously be taken up in the language of justice. The first sees nature as "radically other"; the second sees humans as "part of nature." Both of these attitudes are ancient and remain influential.

The attitude that sees nature as "radically other" is expressed in various spiritual traditions as well as in some Greek philosophical schools. One memorable statement of it may be found in chapter 5 of the *Tao Te Ching*, attributed to the Taoist sage Lao-Tse: "Heaven and Earth are impartial; they treat all of creation as straw dogs." In ancient Chinese rituals, straw dogs were burned as sacrifices in place of living dogs. What

is being asserted here is that the forces that govern the world are as indifferent to human welfare as humans are to the fate of the straw dogs used in ritual sacrifice.

From this perspective, nature is seen as amoral: in no way does it provide us with moral concepts. Moral concepts arise either from divine commandment, as in the case in the Hebrew Bible, or they are artificial human constructions laboriously created and maintained to provide us with a refuge in an otherwise heartless world, as in the story told by the sixteenth-century philosopher Thomas Hobbes. Both versions of this story see nature as immensely powerful and humanity as weak, vulnerable, and in need of protection. From this perspective the idea that moral concepts such as justice would apply to nature seems bizarre.

Although this perspective does not support any idea of environmental justice, other important attitudes toward nature do arise. One attitude provides a rationale for human attempts to conquer and dominate nature. If humanity and its projects are to survive and thrive in this amoral world, nature must be subdued and kept at bay. On this view nature, by indifference if not by intention, should be seen as an enemy of humanity.

A second attitude that may arise from this perspective involves a profound appreciation of nature. This thought is powerfully developed in Edmund Burke's 1757 treatise, *A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful*. The human experience of the sublime is, according to Burke, a "delight" and one of the most powerful human emotions. Yet, perhaps paradoxically, the experience of the sublime involves such "negative" emotions as fear, dread, pain, and terror and can occur when we experience deprivation, darkness, solitude, silence, or vacuity. The experience of the sublime arises when we feel we are in danger, but are not actually in danger. Immensity, infinity, magnitude, and grandeur can cause this experience of unimagined eloquence, greatness, significance, and power. The sublime is often associated with experiences of mountains or oceans. Such experiences may occasion wonder, awe, astonishment, admiration, reverence, or respect. In its fullest extent, the experience of the sublime may cause total astonishment.

The idea of the sublime was profoundly influential on nineteenth-century American culture, notably through nineteenth-century painters such as Thomas Cole and Frederic Church. It has gone on to be an important

influence on American environmentalism through the writings of John Muir and, more recently, Jack Turner (1996) and other advocates for "the big outside" (Foreman 1992). Indeed, the case for wilderness preservation is often made in the language of the sublime. Although it is easy to see why concern for the possibility of such experiences can be an important motivation for some committed environmentalists, it is obvious that this concern engages different considerations than the language of justice.

The second ubiquitous attitude, the one that sees humans as part of nature, can be characterized by contrasting it directly with concerns about justice. Viewing nature as an object of or as implicated in duties of justice rests on certain presuppositions. Although these presuppositions may be true, there are ways of viewing nature in which they do not apply. For an entity to be in the domain of justice, it must be conceived as distinct from what owes it justice and it must also be viewed as worthy of respect. If there were only a single entity in the world, no question of justice would arise. For example, if Robinson Crusoe were alone in the world, he would not owe himself duties of justice. Nor would duties of justice arise in Crusoe's world in virtue of adding a stone, for stones are not (in the usual sense) worthy of respect.

We are now in a position to see why some dimensions of nature, viewed from a certain perspective, are not in the domain of justice. The claim that nature *simpliciter* is within the domain of justice fails the first condition. This is because, from this perspective, we are not separate from nature. Nature is inside of us and we are part of nature. Our skin is a permeable membrane that is itself part of the natural world. Thus, the separation between ourselves and nature that is required for duties of justice to obtain cannot plausibly be maintained from this point of view.

When people say things that are similar to what I have just claimed, I confess that I often find myself quite irritated. This is because such claims sound either trivial or false, pernicious or mystical. In one sense such claims seem trivial, at least for a naturalist. Of course we are part of nature. What else is there for us to be part of? Yet in another sense it is clear that we do distinguish people from nature in much the same way that we distinguish artifacts from natural objects. Someone who cannot make such distinctions, at least in the ordinary case, either does not know how to speak the language, or has some serious psychological

deficiency or disorder. The claim that we are part of nature can also seem pernicious, because it seems to imply that there is no moral difference between a human being who is killed by an earthquake and one who is killed by another human. Of course those who claim that humans are part of nature typically want to deny this implication, but this is where the mysticism sets in.

My claim that humans are part of nature is more straightforward. Think of it this way. We can take many different perspectives on the relationship between ourselves and nature. For example, we can see nature as a set of cycles, and from within this single perspective there are multiple views. From the point of view of biogeochemistry, nature is the carbon cycle, the nitrogen cycle, and so on. On this view we, like other natural objects, are instances of these cycles. At another level of analysis we can say that breathing and respiration are instances of the same cycles that govern the atmosphere; our circulatory system, as well as various cellular processes, are instances of the hydrological cycle; digestion and metabolism recapitulate the soil cycle; and we are as subject the laws of thermodynamics as any planet or star.¹⁹ We could go on acknowledging other perspectives and various points of view within them. From these perspectives we are not separate from nature. Nature not only has brought us into existence and sustains us, but also constitutes our identity. Because justice requires distinction, and there is no distinction between us and nature, our relation to nature cannot be constituted by relations of justice.

This may seem hopelessly abstract or romantic, but it is because of these perspectives from which we see ourselves as part of nature that we cannot fully reduce nature to competing baskets of distributable goods, at least not without radically changing our own self-understandings. We are hesitant about markets in kidneys, and more than hesitant about markets in brains, in part because these organs are seen as partly constitutive of who we are. Even if we allow such markets, we will not be tempted to think that everything that is important about a kidney or a brain is expressed by its market value. It would be strange for someone to perform a cost-benefit analysis of a brain as if its value in a shadow market were its most important feature. The same sort of strangeness attaches to attempts to assess in market terms "the value of the world's ecosystem services and natural capital."²⁰ A residue remains of our rela-

tion to nature that cannot be fully expressed in the language of justice or economics. This dimension is primordial and expressed in various traditions around the world. It cannot easily be dismissed.²¹

Conclusion

In this chapter I have attempted to maintain a delicate balance. I have claimed that a concern with justice is at the heart of environmentalism but that identifying oneself with nature, and viewing nature as "radically other," also figure in the narratives of American environmentalism. For those who are unimpressed with Whitman's adage "I am large, I contain multitudes," this may seem inconsistent, for each of these attitudes toward nature involves quite different presuppositions. As I have already claimed, however, we live with multiple perspectives, and our stances toward the world and ourselves are simultaneously plural. But just in case this point needs to be made more compelling, I will close by discussing two examples.

Consider first the attitudes that we take toward our fellow humans. We are almost never single-minded about them, nor are our attitudes serial or linear. We live with multiple views and perspectives, often held simultaneously, sometimes with quite different valences. Imagine a colleague who is excellent at his work, narcissistic in his behavior, an emotional abuser of women, but a charming and intelligent social companion. I might give him a paper for review, but I would not introduce him to a female friend. I might enjoy going to the movies with him, but I would not open my heart in a conversation over dinner. Rather than plunging me into inconsistency, I would say that such complexity in human relationships is the stuff of everyday life.

Our relationships to nature are no less complex. Consider my relationship to the Needles District of Canyonlands National Park, part of the American wilderness system. I have hiked and camped there, experiencing the sublimity of Druid Arch and the luminescence of the full moon over Elephant Canyon. In searching for water I have felt myself to be part of the natural system that orders and supports life in this desert. I am irate about proposals to open this area to off-road vehicles. Such a policy would be unjust to backpackers and wilderness adventurers, who would

lose the silence and solitude that makes their preferred wilderness experiences possible. I also mourn for the wildlife that would be destroyed or driven away by such a policy. I find the idea of people treating this place as if it were some desert speedway both vulgar and disrespectful. In short, my attitudes toward this area embody all of the perspectives that I have discussed in this chapter: a recognition that my identity is part constituted by my relationship to this place; a desire for the experience of the sublime that it affords; and most of all, a passion that those who love and inhabit this place be treated justly. The moral psychology of my attitudes is complex, but it should not be surprising that our attitudes toward nature can be as complex as our attitudes toward our con-specifics.

In this chapter I have claimed that justice is the heart of environmentalism and that the idea of environmental justice is multidimensional. It concerns the distribution of the benefits and burdens of our interactions with the environment, the need for participation in decisions that concern the environment, and the importance of expanding our conception of who is within the domain of justice. Viewing environmental conflicts in this light provides an opportunity for transforming environmentalism from a collection of views and prejudices united mainly by their opposition to various policies and projects into a set of positive visions that can guide us into the future. Putting justice at the center also gives environmentalism a motivational heart that it often seems to lack.

What I have not claimed is that our complex relationships to nature are fully exhausted by locating nature in a nexus of relationships governed by concepts of justice. We are nature and nature is us, and just as my relationship to myself cannot be exhausted by duties of justice, so my relationship to nature cannot be so exhausted. Yet in other respects we are so alien from nature that it is beyond the reach of concepts such as justice. These perspectives must be acknowledged. Environmentalism can and should be remade with justice at its heart, but it must also respect what it cannot fully capture.²²

Notes

1. According to the Gallup Organization, "Public anxiety [in the United States] about the environment has held relatively steady since 2002—the percentage

who worry a great deal or fair amount has fluctuated between 62% and 68%" (Gallup Organization, 2005).

2. Thiele (1999, p. 131).

3. United States General Accounting Office (1983); and United Church of Christ Commission for Racial Justice (1987).

4. Robert Bullard, for example, has begun to work against climate change. See <http://www.ejcc.org/index.html> (accessed June 26, 2005).

5. See, for a review, Rodger Schlickeisen, "Protecting Biodiversity for Future Generations: An Argument for a Constitutional Amendment," available online at <http://www.defenders.org/bio-co06.html> (accessed June 26, 2005).

6. For example, insofar as some have caused harm to others by appropriating what is rightfully theirs (for example, resources from a global commons, or perhaps habitat in the case of wild animals), duties of corrective justice may be owed.

7. This is how Peter Wenz (1988) thought about environmental justice in one of the first systematic works on the subject.

8. For more on the development of the idea of global environmental justice see Jamieson (1994, 2002).

9. Calculated from data collated by the World Resources Institute, available online at <http://earthtrends.wri.org/datatables/index.cfm?theme=3> (accessed June 26, 2005).

10. For more on this topic see Jamieson (2000, pp. 287–307).

11. Young (1983).

12. Gibbs and Levine (1981).

13. The importance of participatory justice as a dimension of environmental justice is argued in Figueroa and Mills (2001) and Figueroa (1999).

14. In the case of Sao Tome and Principe, a small volcanic peak might survive.

15. For an excellent discussion of these issues see Gardiner (2003).

16. For samples of these views see Agar (2001), Callicott (1989), Regan, (1983), Rolston (1988), Taylor (1986), Varner (1998).

17. For further discussion, see Jamieson (2002). The most influential opponents of such views are those who claim that justice concerns mutual advantage rather than impartiality. For further discussion, see Barry (1995).

18. I take the expression, "more than human world," from Abram (1996).

19. These themes are suggested by Suzuki and McConnell (1997).

20. This is the title of Constanza et al. (1997). According to the authors, the value in question is in the range of \$16–54 trillion per year. For a critical discussion, see Mark Sagoff, "Can We Put a Price on Nature's Services?" available online at <http://www.puaf.umd.edu/IPPP/content.htm>.