12

The Shaky Ground of Sustainable Development

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THE FIRST thing to know when starting to climb a hill is where the summit lies. The second is that there are no completely painless ways to get there. Failing to know those things may lead one up a deceptively easy path that never reaches the top but meanders off into a dead-end, frustrating the climber and wasting energy.

The currently popular slogan of "sustainable development" threatens to become such a road. Though appealing at first view, it appeals particularly to people who are disheartened by the long, arduous hike they see ahead of them or who don't really have a clear notion of what the principal goal of environmental politics ought to be. After much milling about in a confused, contentious mood, they have discovered what looks like a broad easy path where all kinds of people can walk along together, and they hurry toward it, unaware that it may be going in the wrong direction.

When contemporary environmentalism first emerged in the 1960s and '70s, and before its goals became obscured by political compromising and diffusion, the destination was more obvious and the route more clear. The goal was to save the living world around us, millions of species of plants

and animals, including humans, from destruction by our technology, population, and appetites. The only way to do that, it was easy enough to see, was to think the radical thought that there must be limits to growth in three areas—limits to population, limits to technology, and limits to appetite and greed. Underlying that insight was a growing awareness that the progressive, secular, and materialist philosophy on which modern life rests, indeed on which Western civilization has rested for the past three hundred years, is deeply flawed and ultimately destructive to ourselves and the whole fabric of life on the planet. The only true, certain way to the environmental goal, therefore, was to challenge that philosophy at its foundation and find a new one based on material simplicity and spiritual richness—to find other ends to life than production and consumption.

I do not claim this conclusion was shared by everyone in those years who wore the label environmentalist, but it was obvious to the most thoughtful leaders of the movement that this was the road we had to take. But since it was so painfully difficult to make that turn, to go in a diametrically opposite direction from the way we had been going, many began looking for a less strenuous way. By the mid-1980s such an alternative had emerged, called "sustainable development." First it appeared in the *World Conservation Strategy* of the International Union for the Conservation of Nature (1980), then in the book *Building a Sustainable Society,* by Lester R. Brown of Worldwatch Institute (1981), then in another book *Gaia: An Atlas of Planet Management,* edited by Norman Meyers (1984), and then most influentially in the so-called Brundtland Report, *Our Common Future* (1987), directed by Gro Harlem Brundtland, Norwegian Prime Minister and chairwoman of the World Commission on Environment and Development. The appeal of this alternative lay in its international political acceptability among the rich and poor nations alike, in its potential for broad coalition among many contending parties. As Richard Sandbrook, executive vice-president of the International Institute for Environment and Development, explained: "It has not been too difficult to push the environment lobby of the North and the development lobby of the South together. And there is now in fact a blurring of the distinction between the two, so they are coming to have a common consensus around the theme of sustainable development."[1]

So: lots of lobbyists coming together, lots of blurring going on—inevitably, lots of shallow thinking resulting. The North and the South, we were told, could now make common cause on a new, more progressive environmentalism without much difficulty. The capitalist and the socialist, the scientist and the economist, the impoverished masses and the

urban elites could now all happily march together on a straight and easy path, if they did not ask any potentially divisive questions about where they were going.

Like most popular slogans, sustainable development wears thin after a while, revealing a lack of any new core idea. Although it seems to have gained a wide acceptance, it has done so by sacrificing real substance. Worse yet, the slogan may turn out to be irredeemable for environmentalist use because it may inescapably lead us back to using a narrow economic language, to relying on production as the standard of judgment, and to following the progressive materialist world-view in approaching and utilizing the earth, all of which was precisely what environmentalism once sought to overthrow.

My own preference is for an environmentalism that talks about ethics and aesthetics rather than about resources and economics, that places priority on the survival of the living world of plants and animals regardless of their productive value, that cherishes what nature's priceless beauty can add to our deeper-than-economic well-being. I will return to that alternative later on, but first want to expose more fully the shaky ground of sustainable development. So far we have not had a probing analysis of this slogan, despite all those books and reports mentioned above. Although I myself cannot offer any full analysis of it here, I do want to draw attention to the important subject of language, the words we cobble together to capture our ideals, and particularly to ask what is implied in that magic word of consensus, "sustainability."

We have no full history of the word, but its origins appear to lie in the concept of "sustained-yield" that appeared in Germany during the late eighteenth and early nineteenth century. Germany depended in a most essential way on its forests for the wood needed to support its economy, and those forests were in a state of decline—shrinking with overuse, disappearing as the population increased. Fear of impending resource depletion, poverty, and social chaos prompted some citizens to find a solution based on the authority of science. They began talking (the exact date is still not clear) about *managing* the forests so that periodic harvests matched the rate of biological growth. Science could reveal that rate, they believed, thus indicating precisely how many trees could be taken without diminishing the forests themselves or undermining their long-term biological continuity. It was a hope based on a view of the natural world as a stable, enduring order, a view Newtonian in its roots, in which even the growth of a complex entity like a forest followed a steady, predictable cycle on a chart.

Science, according to this ideal of sustained-yield, could become the

basis for a steady prosperity, a tool of economic growth, and could thereby lay the foundations for a lasting social order. Laws and regulations of harvest could be made scientific, and experts in the science of biological growth could become the architects of a more secure nation. Robert Lee has argued that Germany of the period was not yet the "stable, hierarchical, stratified and highly structured society" it later became but rather was still divided into competing religious persuasions, Protestant and Catholic, and had been devastated by a long era of war, rebellion, and many antisocial, private usurpations of resources. "Sustained-yield," he writes, "appears to have been a response to uncertainty and instability . . . [It] was an instrument for ordering social and economic conditions."[2]

Americans like Bernhard Fernow (1851-1923), an immigrant from Germany, and Gifford Pinchot (1865-1946), the first Chief Forester in the Department of Agriculture, imported the sustained-yield theory of environmental management into the United States in the last two decades of the nineteenth century. Fernow was of Prussian extraction, trained in sustained-yield techniques in the Prussian Forest Academy at Munden, and a critic of the laissez-faire economy of his adopted home. The forest resource, he explained,

> is one which, under the active competition of private enterprise, is apt to deteriorate, and in its deterioration to affect other conditions of material existence unfavorably; . . . the maintenance of continued supplies as well as of favorable conditions is possible only under the supervision of permanent institutions with whom present profit is not the only motive. It calls preeminently for the exercise of the providential functions of the state to counteract the destructive tendencies of private exploitation.[3]

German notions of the state as a necessary counterweight to the anarchic, short-term thinking of laissez-faire capitalism were a key part of the sustained-yield idea. Pinchot, who studied at the French Forest School in Nancy and examined model forests in France, Germany, and Switzerland, likewise believed the state, guided by technically trained professionals like himself, must take an active role in managing the nation's natural resources in order to secure a sustainable future. For both men, nature was little more than a utilitarian commodity to be managed and harvested for the common good. They had absorbed completely the dominant world-view of their era, which taught that the primary goal of social life is economic progress—steadily increasing production over the long term—adding only the corollary that such production must be directed by the state and its experts to avoid destroying the organic social order.

"Sustained development" is therefore not a new concept but has been around for at least two centuries; it is a product of the European Enlightenment, is at once progressive and conservative in its impulses, and reflects uncritically the modern faith in human intelligence's ability to manage nature. All that is new in the Brundtland Report and the other recent documents is that they have extended the idea *to the entire globe.* Now it is Planet Earth, not merely a beech forest, that is to be managed by trained minds, an eco-technocratic elite. Though never explicitly, the contemporary advocates of sustained development are pushing a political ideal as well as an environmental policy: one of more centralized authority that can manage disinterestedly the whole global ecosystem. Neither capitalistic corporations nor traditional folk communities can be trusted, they hint, to find unaided the sustainable path to the summit of universal affluence.

I cannot disagree that a world of aggressive nations and individuals grabbing resources for their own selfish enrichment, regardless of how others are faring, is bound to end in violence. And it will cause an ecological degradation that will finally bring everybody down. The multinational corporations are taking us that way fast, while the little folk villages of the past are dwindling away and seem powerless to stop the outcome. But can we really trust the state and its scientific experts to save us from this situation and show us how to manage successfully the global ecosystem, 8,000 miles in diameter, 500 million square miles in extent—show us how to make it yield greater and greater production, until everyone on earth enjoys a princely life, and all that without destroying its capacity for renewability? The ground on which this hope rests is suspicious terrain.

Sustainability, to begin with, is an idea that has never been really defined. Until we have a clearer consensus on it, we cannot know what is being promised or sought. Consider the matter of a time frame. Is a sustainable society one that endures for a decade, a human lifetime, or a thousand years? It is not enough merely to say "sustainable for a long time," or even "for the next generation," if we want to hand over more authority to the development experts. On the other hand, no one really expects sustainable to mean "forever"; that would be a utopian expectation that no society has ever achieved. If we cannot expect to achieve a *perfect* sustainability that lasts forever, what then can we hope for and work toward? What *degree* of sustainability should we settle on? No one, to my knowledge, has yet made a definitive answer.

Besides giving us no clear time frame, the ideal of sustainability presents us with a bewildering multiplicity of criteria, and we have to sort

out which ones we want to emphasize before we can develop any specific program of action. Among the dozens of possible sets of criteria, three or four have dominated public discussion of late, each based on a separate body of expertise, and they share little common ground.[4]

The field of economics, for example, has its own peculiar notion of what sustainability means. Economists focus on the point where societies achieve a critical take-off into long-term, continuous growth, investment, and profit in a market economy. The United States, for instance, reached that point around 1850, and ever since has been growing endlessly, despite a few recessions and depressions. By that standard any and all of the industrial societies are already sustainable, while the backward agrarian ones are not.[5]

Students of medicine and public health, on the other hand, have a different notion of the word; sustainability for them is a condition of individual physiological wellness, a condition to be measured by physicians and nutritionists. Thus, they focus on threats of water and air pollution or on food and water availability, or they talk about the threat of diminished genetic stock to the practice of medicine and the supply of pharmaceuticals. Despite the existence of many such threats today, most health experts would admit that human health has made great strides over the past few centuries in every part of the earth. By their criteria, therefore, the human condition is far more sustainable today than it was in the past—a fact that explosive population growth and longer lifespans for most societies demonstrate. By the standard of physiological fitness people living in industrial societies are doing far better than our ancestors or our contemporaries in the nonindustrial societies.

Still another group of experts, the political and social scientists, speak of "sustainable institutions" and "sustainable societies," which apparently refer to the ability of institutions or ruling groups to generate enough public support to renew themselves and hold onto power.[6] Sustainable societies are then simply those that are able to reproduce their political or social institutions; whether the institutions are benign or evil, compassionate or unjust, does not enter into the discussion. By this reasoning, the communist regimes of eastern Europe and the Soviet Union have not proved to be sustainable and are being swept onto the ashheaps of history.

These are all leading, important uses of the word found among various fields of expertise, and undoubtedly they all can be given very sophisticated (and far more precise than I have indicated) measurements. In contrast to them, we also have some simpler, more popular notions of the word. One of the clearest, most pithy, and least arcane definitions comes

from Wendell Berry, the American writer and trenchant critic of all expertise. He called specifically for a more sustainable agriculture than we have today, by which he meant an agriculture that "does not deplete soils or people."[7] That phrase expresses, as so much of Berry's work does, an old-fashioned agrarian way of thinking, steeped in the folk history and local knowledge of his rural Kentucky neighbors. Like everything Berry writes, it has a concise, elemental ring, and the great virtue of recalling to our attention that people and the earth are interdependent, a fact that those specialized academic approaches by economists and the rest generally ignore.

In Berry's view the only truly sustainable societies have been small-scale agrarian ones; no modern industrial society could qualify. His own model, which is based on the livelihood and culture of the Jeffersonian yeoman farmer, must be seen as part of the economic past; it has virtually disappeared from modern American life. One might ask, as Berry's critics regularly do, whether he is offering us more of a myth than a reality: Did such non-depleting rural communities ever really exist in the United States, or are they only idealizations or indulgences in a false nostalgia? But even if we accept Berry's distinction between "sustainable agrarian" and "unsustainable industrial," it is still not clear what the preconditions for sustainability, or the measurement of its success, would be. What meaning can we give to the idea of "people depletion"? Is it a demographic or a cultural idea? How much self-reliance or local community production does it require, and how much market exchange does it allow? For that matter, what is referred to in Berry's notion of soil depletion? Soil scientists point out that the United States has lost, on average, half of its topsoil since white European settlement began; but then many of them go on to argue that such depletion is not a problem so long as we can substitute chemical fertilizers. Once more we are back in the muddle of whose expertise, language, and values are to define sustainability. Berry would answer, I suppose, that we should leave the definition to local people, but national and international policy makers will want something more objective than that.

All those definitions and criteria are floating around in the air today, confusing our language and thinking, demanding far more of a consensus of meaning before we can achieve any concerted program of environmental action. To be sure, there is a widespread implication in the literature I have cited that sustainability is at bottom *an ecological concept:* the goal of environmentalism should be to achieve "ecological sustainability." What that means is it that the science of ecology is expected to cut through all the confusion and define sustainability for us; it should point

out what practices are ecologically sustainable and which are not. Once again we are back in the business of looking for a set of expert, objective answers to guide policy. But how helpful really are those experts in ecology? Do they have a clear definition or set of criteria to offer? Do they even have a clear, coherent perception of nature to provide as a basis for international action?

Ecologists traditionally have approached nature as a series of overlapping but integrated biological systems, or ecosystems. In contrast to most economists, for whom nature is not a relevant category of analysis, they have insisted that those systems are not disorganized or useless but are self-organizing and productive of many material benefits that we need. The role of ecologists then, as we have generally come to understand it, is one of revealing to laymen how those ecosystems, or their modifications into agroecosystems, undergo stress from human demands and of helping us determine the critical point when that stress is so severe that they collapse.

If we accept that expert tutoring, the ecological idea of sustainability becomes, quite simply, another measure of production, rivaling that of the economists: a measure of productivity in the economy of nature where we find such commodities as soils, forests, and fisheries, and a measure of the capacity of that economy to rebound from stresses, avoid collapse, and maintain output. Unfortunately, compared with economists, the ecologists have lately become very uncertain about their own advice. Their indices of stress and collapse are in dispute, and their expertise is in disarray.

A few decades ago ecologists commonly believed that nature, when left free of human interference, eventually reaches a balance or equilibrium state where production is at a steady rate. The origins of this idea go back deep into the recesses of human memory, deep into the past of every civilization before the modern. For westerners in particular the idea of nature as a balanced order has ancient Greek, medieval Christian, and eighteenth-century rationalist antecedents, and it survived even the profound intellectual revolution wrought by Charles Darwin and the theory of evolution through natural selection. From the time of its emergence in the late nineteenth century the science of ecology echoed that long-standing faith in the essential orderliness of nature, and until recently almost all ecologists would have agreed that sustainability is a matter of accommodating the human economy to that constancy and orderliness. Now that is no longer the case.[8]

Beginning around 1970, ecology went off in search of new ways to describe forests, grasslands, oceans, and all the other biomes of the

planet, and the outcome is the emergence today of a more permissive set of ideas that rejects virtually all notions of stability, equilibrium, balance, and order, new or ancient, and instead portrays a nature that is far more lenient toward human activity. We live in midst of a nature that has been undergoing profound and constant change for as far back as we can look, scientists now argue with the aid of new scientific techniques; we confront a nature populated by rugged individualists, eager opportunists, and self-seekers. There is no integrated community in that nature, no enduring system of relationships; no deep interdependence. To be sure, the sun seems to come up regularly every day and in predictable spots; the four seasons come and go with a great deal of regularity. But pay no attention to all that, they say; look at the populations of plants and animals that live in any given area that we might call wild, pristine, or natural, and you will find no regularity, no constancy, no order there at all.

Many of these ideas appear in a recent book entitled *Discordant Harmonies* (1990), which is self-described as "a new ecology for the 21st century." Here is how its author, Daniel Botkin, a leading California ecologist, sees the current situation in his science:

> Until the past few years, the predominant theories in ecology either presumed or had as a necessary consequence a very strict concept of a highly structured, ordered, and regulated, steady-state ecological system. Scientists know now that this view is wrong at local and regional levels . . . that is, at the levels of population and ecosystems. Change now appears to be intrinsic and natural at many scales of time and space in the biosphere.

"Wherever we seek to find constancy" in nature, Botkin writes, "we discover change."[9]

The basis for this new ecology is a body of evidence that is essentially historical, including pollen samples, tree rings, and animal population cycles, all of which show the world of nature to be in a constant flux, as unstable as the human scene where wars, assassinations, invasions, depressions, and social turmoil of every sort constitute the only normal condition we know.

For example, one can observe the history of a small, old-growth forest in New Jersey that was preserved from real-estate development in the 1950s under the assumption that it was a surviving remnant of the mature climax forest, dominated by oaks and hickories, that once grew in the area. Scientists suppressed fire in the forest to keep it pristine and undisturbed. By the 1960s, however, they began to discover that maple trees were invading their preserve from the outside. If they suppressed all fires, if they tried to keep their forest "natural," they were bound to fail. What

then, they had to ask themselves, was the state of equilibrium in this habitat? What could be called natural? What was the true order of nature?

Other evidence comes from pollen taken from pond and lake sediments all over North America, and indeed from all the major continents. They show that every area of the earth has experienced a wide variation in vegetation cover from year to year, from century to century, and from the glacial to the interglacial period. When the great ice sheets flowed over the North American continent, all the plants retreated south or into the lowlands—and it was not the orderly retreat of an organized, superorganismic community but a chaotic rout. Then when the glaciers retreated, leaving the land bare, the same plants made a ragged, chaotic invasion of their old ground. There was no organized return of whole communities.

Here is Botkin again:

> Nature undisturbed by human influence seems more like a symphony whose harmonies arise from variation and change over every interval of time. We see a landscape that is always in flux, changing over many scales of time and space, changing with individual births and deaths, local disruptions and recoveries, larger scale responses to climate from one glacial age to another, and to the slower alterations of soils, and yet larger variations between glacial ages.[10]

But Botkin later makes a very telling amendment to that statement when he adds that "nature's symphony" is more like several compositions being played at once in same hall, "each with its own pace and rhythm." And then he comes to what is really the practical upshot of his ecology for policy makers, environmentalists, and developers: "We are forced to choose among these [compositions], which we have barely begun to hear and understand." Or one might say that after learning to hear all those discordances of nature, we humans must also assume the role of conducting the music. If there is to be any order in nature, it is our responsibility to achieve it. If there is to be any harmony, we must overcome the apparent discord. "Nature in the 21st century," this scientist concludes, "will be a nature that we make." Such a conclusion is where Botkin's science has been leading him all along: to a rejection of nature as a norm or standard for human civilization and to an assertion of a human right and need to give order and shape to nature. We are arriving, he proclaims, at a new view of Earth "in which we are a part of a living and changing system whose changes we can accept, use, and control, to make the Earth a comfortable home, for each of us individually and for all of us collectively in our civilizations." I believe that this new turn toward revisionism and

relativism in ecological science is motivated, in part, by a desire to be less disapproving of economic development than environmentalists were in the 1960s and '70s. Botkin criticizes that era for its radical, sometimes hostile, rejection of modern technology and progress. We need a science of ecology, he believes, that approaches development in a more "constructive and positive manner."[11]

Those conclusions constitute what I would call a new permissiveness in ecology—more permissive toward human desires than the the traditional, pre-1970 ecology was and emphatically more permissive than the ecological imagination found among environmentalists of the 1960s and '70s was. This new ecology makes human wants and desires the primary test of what should be done with the earth. It denies that there is to be found in nature, past or present, any standard for, or even much of a limitation on, those desires. Botkin hints at this denial in the beginning of his book when he criticizes the environmentalism of the sixties and seventies as "essentially a disapproving, and in this sense, negative movement, exposing the bad aspects of our civilization for our environment . . . ." What we must do, he argues, is move away from that critical environmentalism toward a stance "that combine[s] technology with our concern about our environment in a constructive and positive manner."

This new turn in ecology presents several difficulties that I do not think the sustainable development advocates have really acknowledged. In the first place, the whole idea of a normal "yield" or "output" from the natural economy becomes, if we follow Botkin's reasoning, far more ambiguous. Scientists once thought they could determine with relative ease the maximum sustained-yield that a forest or fishery could achieve. They had only to determine the steady-state population in the ecosystem and then calculate how many fish could be caught each year without affecting the stock. They could take off the interest without touching the fixed capital. Botkin argues that it was just such assurance that led to overfishing in the California sardine industry—and to the total collapse of that industry in the 1950s.[12]

But if the natural populations of fish and other organisms are in such continual flux that we cannot set maximum sustained-yield targets, could we instead set up a more flexible standard of "optimum yield," one that would allow a more generous margin for error and fluctuations? That is where most ecological sustainability thinking rests today. Harvest commodities from nature, but do so at a slightly reduced level to avoid overstressing a system in stochastic change. Call it the safe optimum notion. But that formula does not really address the more basic challenge implicit in recent ecological thinking. What can sustainable use, let alone

sustainable development, mean in a natural world subject to so much disturbance and chaotic turbulence? Our powers of prediction, say ecologists, are far more limited than we imagined. Our understanding of what is normal in nature now seems to many to be arbitrary and partial.

The only real guidance Botkin gives us, and this is likewise true of most ecologists today, is that slow rates of change in ecosystems are "more natural," and therefore more desirable, than fast rates. "We must be wary," Botkin says, "when we engineer nature at an unnatural rate and in novel ways."[13] And that is all he really offers. But when we have to have more specific advice to manage this or that acre of land successfully, the ecologist is embarrassingly silent; he or she can hardly say anymore what is "unnatural" or what is "novel" in light of the incredibly changeable record of the earth's past.

In the much acclaimed partnership between the advocates of ecological sustainability and of development, who is going to lead whom? This is the all-important question to ask about the new path that so many want us to take. I fear that in that partnership it will be "development" that makes most of the decisions, and "sustainable" will come trotting along, smiling and genial, unable to assert any firm leadership, complaining only about the pace of travel. "You must slow down, my friend, you are going too fast for me. This is a nice road to progress, but we must go along at a more 'natural' speed."

In the absence of any clear idea of what a healthy nature is, or how threats to that collective biological whole might impinge on us, we will end up relying on utilitarian, economic, and anthropocentric definitions of sustainability. That's where, it seems to me, the discussion is right now. Sustainability is, by and large, an economic concept on which economists are clear and ecologists are muddled. If you find that outcome unacceptable, as I do, then you must try to change the elementary terms of the discussion.

I find the following deep flaws in the sustainable development ideal:

First, it is based on the view that the natural world exists primarily to serve the material demands of the human species. Nature is nothing more than a pool of "resources" to be exploited; it has no intrinsic meaning or value apart from the goods and services it furnishes people, rich or poor. The Bruntland Report makes this point clear on every page: the "our" in its title refers to people exclusively, and the only moral issue its raises is the need to share natural resources more equitably among our kind, among the present world population and among the generations to come. That is not by any means an unworthy goal, but it is not adequate to the challenge.

Second, sustainable development, though it acknowledges some kind of limit on those material demands, depends on the assumption that we can easily determine the carrying capacity of local and regional ecosystems. Our knowledge is supposedly adequate to reveal the limits of nature and to exploit resources safely up to that level. In the face of new arguments suggesting how turbulent, complex, and unpredictable nature really is, that assumption seems highly optimistic. Furthermore, in light of the tendency of some leading ecologists to use such arguments to justify a more accommodating stance toward development, any heavy reliance on their ecological expertise seems doubly dangerous; they are experts who lack any agreement on what the limits are.

Third, the sustainability ideal rests on an uncritical, unexamined acceptance of the traditional world-view of progressive, secular materialism. It regards that world-view as completely benign so long as it can be made sustainable. The institutions associated with that world-view, including those of capitalism, socialism, and industrialism, also escape all criticism, all close scrutiny. We are led to believe that sustainability can be achieved with those institutions and their values intact.

Perhaps my objections can be fully answered by the advocates of the sustainable development idea. I suspect, however, that their response will, in the end, rest on the argument that the idea is the only politically acceptable kind of environmentalism we can expect at this point. It is desirable simply because it represents the politics of compromise.

Having been so critical toward this easy, sloganeering alternative, I feel obliged to conclude with a few ideas of my own about what a real solution for the global crisis will require. I grant that it will be more difficult to achieve, but would argue that it is more revolutionary in impact and more morally advanced.

We must make our first priority in dealing with the earth the careful and strict preservation of the billion-year-old heritage achieved by the evolution of plant and animal life. We must preserve all species, subspecies, varieties, communities, and ecosystems that we possibly can. We must not, through our actions, cause any more species to go extinct. To be sure, we cannot stop every death or extinction, since the death of living things is part of the inevitable workings of nature, but we can avoid adding to that fateful outcome. We can stop reversing the processes of evolution, as we are doing today. We can work to preserve as much genetic variety as possible. We can save endangered habitats and restore those needed to support that evolutionary heritage. We can and must do all this primarily because the living heritage of evolution has an intrinsic value

that we have not created but only inherited and enjoyed. That heritage demands our respect, our sympathy, and our love.

Unquestionably, we have a right to use that heritage to improve our material condition, but only after taking, in every community, every nation, and every family, the strictest measures to preserve it from extinction and diminution.

To conserve that evolutionary heritage is to focus our attention on the long history of the struggle of life on this planet. In recent centuries we have had our eyes fixed almost exclusively on the future and the potential affluence it can offer our aspiring species. Now it is time to learn to look backward more of the time and, from an appreciation of that past, learn humility in the presence of an achievement that overshadows all our technology, all our wealth, all our ingenuity, and all our human aspirations.

To conserve that heritage is to put other values than economic ones first in our priorities: the value of natural beauty, the value of respectfulness in the presence of what we have not created, and above all the value of life itself, a phenomenon that even now, with all our intelligence, we cannot really explain.

To learn truly to cherish and conserve that heritage is the hardest road the human species can take. I don't even know, though I have plenty of doubts about, whether it is realistic at this point, given the state of affairs in global politics, to expect most nations to be ready or willing to take it. But I do know that it is the right path, while following the ambiguities, compromises, and smooth words of sustainable development may lead us into quicksand.