Environmental Readings Volume 1: Humans Relationships With Nature

Published by:

Groundwork Education
www.layinggroundwork.org

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First Edition, June 2018

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"We can make ourselves whole only by accepting our partiality, by living within our limits, by being human— not by trying to be gods."

Skywoman Falling by Robin Wall Kimmerer

The opening chapter from Braiding Sweetgrass, 2013

In winter, when the green earth lies resting beneath a blanket of snow, this is the time for storytelling. The storytellers begin by calling upon those who came before who passed the stories down to us, for we are only messengers.

In the beginning there was the Skyworld.

She fell like a maple seed, pirouetting on an autumn breeze. A column of light streamed from a hole in the Skyworld, marking her path where only darkness had been before. It took her a long time to fall. In fear, or maybe hope, she clutched a bundle tightly in her hand.

Hurtling downward, she saw only dark water below. But in that emptiness there were many eyes gazing up at the sudden shaft of light. They saw there a small object, a mere dust mote in the beam. As it grew closer, they could see that it was a woman, arms outstretched, long black hair billowing behind as she spiraled toward them.

The geese nodded at one another and rose together from the water in a wave of goose music. She felt the beat of their wings as they flew beneath to break her fall. Far from the only home she'd ever known, she caught her breath at the warm embrace of soft feathers as they gently carried her downward. And so it began.

The geese could not hold the woman above the water for much longer, so they called a council to decide what to do. Resting on their wings, she saw them all gather: loons, otters, swans, beavers, fish of all kinds. A great turtle floated in their midst and offered his back for her to rest upon. Gratefully, she stepped from the goose wings onto the dome of his shell. The others understood that she needed land for her home and discussed how they might serve her need. The deep divers among them had heard of mud at the bottom of the water and agreed to go find some.

Loon dove first, but the distance was too far and after a long while he surfaced with nothing to show for his efforts. One by one, the other animals offered to help—Otter, Beaver, Sturgeon—but the depth, the darkness, and the pressures were too great for even the strongest of swimmers. They returned gasping for air with their heads ringing. Some did not return at all. Soon only little Muskrat was left, the weakest diver of all. He volunteered to go while the others looked on doubtfully. His small legs flailed as he worked his way downward and he was gone a very long time.

They waited and waited for him to return, fearing the worst for their relative, and, before long, a stream of bubbles rose with the small, limp body of the muskrat. He had given his life to aid this helpless human. But then the others noticed that his paw was tightly clenched and, when they opened it, there was a small handful of mud. Turtle said, "Here, put it on my back and I will hold it."

Skywoman bent and spread the mud with her hands across the shell of the turtle. Moved by the extraordinary gifts of the animals, she sang in thanksgiving and then began to dance, her feet caressing the earth. The land grew and grew as she danced her thanks, from the dab of mud on Turtle's back until the whole earth was made. Not by Skywoman alone, but from the alchemy of all the animals' gifts coupled with her deep gratitude. Together they formed what we know today as Turtle Island, our home.

Like any good guest, Skywoman had not come empty-handed. The bundle was still clutched in her hand. When she toppled from the hole in the Skyworld she had reached out to grab onto the Tree of Life that grew there. In her grasp were branches—fruits and seeds of all kinds of plants. These she scattered onto the new ground and carefully tended each one until the world turned from brown to green.

Sunlight streamed through the hole from the Skyworld, allowing the seeds to flourish. Wild grasses, flowers, trees, and medicines spread everywhere. And now that the animals, too, had plenty to eat, many came to live with her on Turtle Island.

Our stories say that of all the plants, *wiingaashk*, or sweetgrass, was the very first to grow on the earth, its fragrance a sweet memory of Skywoman's hand. Accordingly, it is honored

as one of the four sacred plants of my people. Breathe in its scent and you start to remember things you didn't know you'd forgotten. Our elders say that ceremonies are the way we "remember to remember," and so sweetgrass is a powerful ceremonial plant cherished by many indigenous nations. It is also used to make beautiful baskets. Both medicine and a relative, its value is both material and spiritual.

There is such tenderness in braiding the hair of someone you love. Kindness and something more flow between the braider and the braided, the two connected by the cord of the plait. Wiingaashk waves in strands, long and shining like a woman's freshly washed hair. And so we say it is the flowing hair of Mother Earth. When we braid sweetgrass, we are braiding the hair of Mother Earth, showing her our loving attention, our care for her beauty and well-being, in gratitude for all she has given us. Children hearing the Skywoman story from birth know in their bones the responsibility that flows between humans and the earth.

The story of Skywoman's journey is so rich and glittering it feels to me like a deep bowl of celestial blue from which I could drink again and again. It holds our beliefs, our history, our relationships. Looking into that starry bowl, I see images swirling so fluidly that the past and the present become as one. Images of Skywoman speak not just of where we came from, but also of how we can go forward.

I have Bruce King's portrait of Skywoman, Moment in Flight, hanging in my lab. Floating to earth with her handful of seeds and flowers, she looks down on my microscopes and data loggers. It might seem an odd juxtaposition, but to me she belongs there. As a writer, a scientist, and a carrier of Skywoman's story, I sit at the feet of my elder teachers listening for their songs.

On Mondays, Wednesdays, and Fridays at 9:35 a.m., I am usually in a lecture hall at the university, expounding about botany and ecology —trying, in short, to explain to my students how Skywoman's gardens, known by some as "global ecosystems," function. One otherwise unremarkable morning I gave the students in my General Ecology class a survey. Among other things, they were asked to rate their understanding of the negative interactions between humans and the environment. Nearly every one of the two hundred students said confidently that humans and nature are a bad mix. These were third-year students who had selected a career in environmental protection, so the response was, in a way, not very surprising. They were well schooled in the mechanics of climate change, toxins in the land and water, and the crisis of habitat loss. Later in the survey, they were asked to rate their knowledge of positive interactions between people and land. The median response was "none."

I was stunned. How is it possible that in twenty years of education they cannot think of any beneficial relationships between people and the environment? Perhaps the negative examples they see every day— brownfields, factory farms, suburban sprawl—truncated their ability to see some good between humans and the earth. As the land becomes impoverished, so too does the scope of their vision. When we talked about this after class, I realized that they could not even imagine what beneficial relations between their species and others might look like. How can we begin to move toward ecological and cultural sustainability if we cannot even imagine what the path feels like? If we can't imagine the generosity of geese? These students were not raised on the story of Skywoman.

On one side of the world were people whose relationship with the living world was shaped by Skywoman, who created a garden for the well-being of all. On the other side was another woman with a garden and a tree. But for tasting its fruit, she was banished from the garden and the gates clanged shut behind her. That mother of men was made to wander in the wilderness and earn her bread by the sweat of her brow, not by filling her mouth with the sweet juicy fruits that bend the branches low. In order to eat, she was instructed to subdue the wilderness into which she was cast.

Same species, same earth, different stories. Like Creation stories everywhere, cosmologies are a source of identity and orientation to the world. They tell us who we are. We are inevitably shaped by them no matter how distant they may be from our consciousness. One story leads to the generous embrace of the living world, the other to banishment. One woman is

our ancestral gardener, a cocreator of the good green world that would be the home of her descendants. The other was an exile, just passing through an alien world on a rough road to her real home in heaven.

And then they met—the offspring of Skywoman and the children of Eve—and the land around us bears the scars of that meeting, the echoes of our stories. They say that hell hath no fury like a woman scorned, and I can only imagine the conversation between Eve and Skywoman: "Sister, you got the short end of the stick . . ."

The Skywoman story, shared by the original peoples throughout the Great Lakes, is a constant star in the constellation of teachings we call the Original Instructions. These are not "instructions" like commandments, though, or rules; rather, they are like a compass: they provide an orientation but not a map. The work of living is creating that map for yourself. How to follow the Original Instructions will be different for each of us and different for every era.

In their time, Skywoman's first people lived by their understanding of the Original Instructions, with ethical prescriptions for respectful hunting, family life, ceremonies that made sense for their world. Those measures for caring might not seem to fit in today's urban world, where "green" means an advertising slogan, not a meadow. The buffalo are gone and the world has moved on. I can't return salmon to the river, and my neighbors would raise the alarm if I set fire to my yard to produce pasture for elk.

The earth was new then, when it welcomed the first human. It's old now, and some suspect that we have worn out our welcome by casting the Original Instructions aside. From the very beginning of the world, the other species were a lifeboat for the people. Now, we must be theirs. But the stories that might guide us, if they are told at all, grow dim in the memory. What meaning would they have today? How can we translate from the stories at the world's beginning to this hour so much closer to its end? The landscape has changed, but the story remains. And as I turn it over again and again, Skywoman seems to look me in the eye and ask, in return for this gift of a world on Turtle's back, what will I give in return?

It is good to remember that the original woman was herself an immigrant. She fell a long way from her home in the Skyworld, leaving behind all who knew her and who held her dear. She could never go back. Since 1492, most here are immigrants as well, perhaps arriving on Ellis Island without even knowing that Turtle Island rested beneath their feet. Some of my ancestors are Skywoman's people, and I belong to them. Some of my ancestors were the newer kind of immigrants, too: a French fur trader, an Irish carpenter, a Welsh farmer. And here we all are, on Turtle Island, trying to make a home. Their stories, of arrivals with empty pockets and nothing but hope, resonate with Skywoman's. She came here with nothing but a handful of seeds and the slimmest of instructions to "use your gifts and dreams for good," the same instructions we all carry. She accepted the gifts from the other beings with open hands and used them honorably. She shared the gifts she brought from Skyworld as she set herself about the business of flourishing, of making a home.

Perhaps the Skywoman story endures because we too are always falling. Our lives, both personal and collective, share her trajectory. Whether we jump or are pushed, or the edge of the known world just crumbles at our feet, we fall, spinning into someplace new and unexpected. Despite our fears of falling, the gifts of the world stand by to catch us.

As we consider these instructions, it is also good to recall that, when Skywoman arrived here, she did not come alone. She was pregnant. Knowing her grandchildren would inherit the world she left behind, she did not work for flourishing in her time only. It was through her actions of reciprocity, the give and take with the land, that the original immigrant became indigenous. For all of us, becoming indigenous to a place means living as if your children's future mattered, to take care of the land as if our lives, both material and spiritual, depended on it.

In the public arena, I've heard the Skywoman story told as a bauble of colorful "folklore." But, even when it is misunderstood, there is power in the telling. Most of my students have never heard the origin story of this land where they were

born, but when I tell them, something begins to kindle behind their eyes. Can they, can we all, understand the Skywoman story not as an artifact from the past but as instructions for the future? Can a nation of immigrants once again follow her example to become native, to make a home?

Look at the legacy of poor Eve's exile from Eden: the land shows the bruises of an abusive relationship. It's not just land that is broken, but more importantly, our relationship to land. As Gary Nabhan has written, we can't meaningfully proceed with healing, with restoration, without "re-story-ation." In other words, our relationship with land cannot heal until we hear its stories. But who will tell them?

In the Western tradition there is a recognized hierarchy of beings, with, of course, the human being on top—the pinnacle of evolution, the darling of Creation—and the plants at the bottom. But in Native ways of knowing, human people are often referred to as "the younger brothers of Creation." We say that humans have the least experience with how to live and thus the most to learn—we must look to our teachers among the other species for guidance. Their wisdom is apparent in the way that they live. They teach us by example. They've been on the earth far longer than we have been, and have had time to figure things out. They live both above and below ground, joining Skyworld to the earth. Plants know how to make food and medicine from light and water, and then they give it away.

I like to imagine that when Skywoman scattered her handful of seeds across Turtle Island, she was sowing sustenance for the body and also for the mind, emotion, and spirit: she was leaving us teachers. The plants can tell us her story; we need to learn to listen.

The Gospel of Consumption by Jeffrey Kaplan

from Orion Magazine, 2009

PRIVATE CARS WERE RELATIVELY SCARCE in 1919 and horse-drawn conveyances were still common. In residential districts, electric streetlights had not yet replaced many of the old gaslights. And within the home, electricity remained largely a luxury item for the wealthy.

Just ten years later things looked very different. Cars dominated the streets and most urban homes had electric lights, electric flat irons, and vacuum cleaners. In upper-middle-class houses, washing machines, refrigerators, toasters, curling irons, percolators, heating pads, and popcorn poppers were becoming commonplace. And although the first commercial radio station didn't begin broadcasting until 1920, the American public, with an adult population of about 122 million people, bought 4,438,000 radios in the year 1929 alone.

But despite the apparent tidal wave of new consumer goods and what appeared to be a healthy appetite for their consumption among the well-to-do, industrialists were worried. They feared that the frugal habits maintained by most American families would be difficult to break. Perhaps even more threatening was the fact that the industrial capacity for turning out goods seemed to be increasing at a pace greater than people's sense that they needed them.

It was this latter concern that led Charles Kettering, director of General Motors Research, to write a 1929 magazine article called "Keep the Consumer Dissatisfied." He wasn't suggesting that manufacturers produce shoddy products. Along with many of his corporate cohorts, he was defining a strategic shift for American industry — from fulfilling basic human needs to creating new ones.

In a 1927 interview with the magazine Nation's Business, Secretary of Labor James J. Davis provided some numbers to illustrate a problem that the New York Times called "need saturation." Davis noted that "the textile mills of this country can produce all the cloth needed in six months' operation each year" and that 14 percent of the American shoe factories could produce a year's supply of footwear. The magazine went on to suggest, "It may be that the world's needs ultimately will be produced by three days' work a week."

Business leaders were less than enthusiastic about the prospect of a society no longer centered on the production of goods. For them, the new "labor-saving" machinery presented not a vision of liberation but a threat to their position at the center of power. John E. Edgerton, president of the National Association of Manufacturers, typified their response when he declared: "I am for everything that will make work happier but against everything that will further subordinate its importance. The emphasis should be put on work — more work and better work." "Nothing," he claimed, "breeds radicalism more than unhappiness unless it is leisure."

By the late 1920s, America's business and political elite had found a way to defuse the dual threat of stagnating economic growth and a radicalized working class in what one industrial consultant called "the gospel of consumption" — the notion that people could be convinced that however much they have, it isn't enough. President Herbert Hoover's 1929 Committee on Recent Economic Changes observed in glowing terms the results: "By advertising and other promotional devices . . . a measurable pull on production has been created which releases capital otherwise tied up." They celebrated the conceptual breakthrough: "Economically we have a boundless field before us; that there are new wants which will make way endlessly for newer wants, as fast as they are satisfied."

Today "work and more work" is the accepted way of doing things. If anything, improvements to the labor-saving machinery since the 1920s have intensified the trend. Machines can save labor, but only if they go idle when we possess enough of what they can produce. In other words, the machinery offers us an opportunity to work less, an opportunity that as a society we have chosen not to take. Instead, we have allowed the owners of those machines to define their purpose: not reduction of labor, but "higher productivity" — and with it the imperative to consume virtually everything that the machinery can possibly produce.

FROM THE EARLIEST DAYS of the Age of Consumerism there were critics. One of the most influential was Arthur Dahlberg, whose 1932 book Jobs, Machines, and Capitalism was well known to policymakers and elected officials in Washington. Dahlberg declared that "failure to shorten the length of the working day . . . is the primary cause of our rationing of opportunity, our excess industrial plant, our enormous wastes of competition, our high pressure advertising, [and] our economic imperialism." Since much of what industry produced was no longer aimed at satisfying human physical needs, a four-hour workday, he claimed, was necessary to prevent society from becoming disastrously materialistic. "By not shortening the working day when all the wood is in," he suggested, the profit motive becomes "both the creator and satisfier of spiritual needs." For when the profit motive can turn nowhere else, "it wraps our soap in pretty boxes and tries to convince us that that is solace to our souls."

There was, for a time, a visionary alternative. In 1930 Kellogg Company, the world's leading producer of ready-to-eat cereal, announced that all of its nearly fifteen hundred workers would move from an eight-hour to a six-hour workday. Company president Lewis Brown and owner W. K. Kellogg noted that if the company ran "four six-hour shifts . . . instead of three eight-hour shifts, this will give work and paychecks to the heads of three hundred more families in Battle Creek."

This was welcome news to workers at a time when the country was rapidly descending into the Great Depression. But as Benjamin Hunnicutt explains in his book Kellogg's Six-Hour Day, Brown and Kellogg wanted to do more than save jobs. They hoped to show that the "free exchange of goods, services, and labor in the free market would not have to mean mindless consumerism or eternal exploitation of people and natural resources." Instead "workers would be liberated by increasingly higher wages and shorter hours for the final freedom promised by the Declaration of Independence — the pursuit of happiness."

To be sure, Kellogg did not intend to stop making a profit. But the company leaders argued that men and women would work more efficiently on shorter shifts, and with more people employed, the overall purchasing power of the community would increase, thus allowing for more purchases of goods, including cereals.

A shorter workday did entail a cut in overall pay for workers. But Kellogg raised the hourly rate to partially offset the loss and provided for production bonuses to encourage people to work hard. The company eliminated time off for lunch, assuming that workers would rather work their shorter shift and leave as soon as possible. In a "personal letter" to employees, Brown pointed to the "mental income" of "the enjoyment of the surroundings of your home, the place you work, your neighbors, the other pleasures you have [that are] harder to translate into dollars and cents." Greater leisure, he hoped, would lead to "higher standards in school and civic . . . life" that would benefit the company by allowing it to "draw its workers from a community where good homes predominate."

It was an attractive vision, and it worked. Not only did Kellogg prosper, but journalists from magazines such as Forbes and BusinessWeek reported that the great majority of company employees embraced the shorter workday. One reporter described "a lot of gardening and community beautification, athletics and hobbies . . . libraries well patronized and the mental background of these fortunate workers . . . becoming richer."

A U.S. Department of Labor survey taken at the time, as well as interviews Hunnicutt conducted with former workers, confirm this picture. The government interviewers noted that "little dissatisfaction with lower earnings resulting from the decrease in hours was expressed, although in the majority of cases very real decreases had resulted." One man spoke of "more time at home with the family." Another remembered: "I could go home and have time to work in my garden." A woman noted that the six-hour shift allowed her husband to "be with 4 boys at ages it was important."

Those extra hours away from work also enabled some people to accomplish things that they might never have been able to do otherwise. Hunnicutt describes how at the end of her interview an eighty-year-old woman began talking about ping-pong. "We'd get together. We had a ping-pong table and all my relatives would come for dinner and things and we'd all play ping-pong by the hour." Eventually she went on to win the state championship.

Many women used the extra time for housework. But even then, they often chose work that drew in the entire family, such as canning. One recalled how canning food at home became "a family project" that "we all enjoyed," including her sons, who "opened up to talk freely." As Hunnicutt puts it, canning became the "medium for something more important than preserving food. Stories, jokes, teasing, quarreling, practical instruction, songs, griefs, and problems were shared. The modern discipline of alienated work was left behind for an older . . . more convivial kind of working together."

This was the stuff of a human ecology in which thousands of small, almost invisible, interactions between family members, friends, and neighbors create an intricate structure that supports social life in much the same way as topsoil supports our biological existence. When we allow either one to become impoverished, whether out of greed or intemperance, we put our long-term survival at risk.

Our modern predicament is a case in point. By 2005 per capita household spending (in inflation-adjusted dollars) was twelve times what it had been in 1929, while per capita spending for durable goods — the big stuff such as cars and appliances — was thirty-two times higher. Meanwhile, by 2000 the average married couple with children was working almost five hundred hours a year more than in 1979. And according to reports by the Federal Reserve Bank in 2004 and 2005, over 40 percent of American families spend more than they earn. The average household carries $18,654 in debt, not including home-mortgage debt, and the ratio of household debt to income is at record levels, having roughly doubled over the last two decades. We are quite literally working ourselves into a frenzy just so we can consume all that our machines can produce.

Yet we could work and spend a lot less and still live quite comfortably. By 1991 the amount of goods and services produced for each hour of labor was double what it had been in 1948. By 2006 that figure had risen another 30 percent. In other words, if as a society we made a collective decision to get by on the amount we produced and consumed seventeen years ago, we could cut back from the standard forty-hour week to 5.3

hours per day — or 2.7 hours if we were willing to return to the 1948 level. We were already the richest country on the planet in 1948 and most of the world has not yet caught up to where we were then.

Rather than realizing the enriched social life that Kellogg's vision offered us, we have impoverished our human communities with a form of materialism that leaves us in relative isolation from family, friends, and neighbors. We simply don't have time for them. Unlike our great-grandparents who passed the time, we spend it. An outside observer might conclude that we are in the grip of some strange curse, like a modern-day King Midas whose touch turns everything into a product built around a microchip.

Of course not everybody has been able to take part in the buying spree on equal terms. Millions of Americans work long hours at poverty wages while many others can find no work at all. However, as advertisers well know, poverty does not render one immune to the gospel of consumption.

Meanwhile, the influence of the gospel has spread far beyond the land of its origin. Most of the clothes, video players, furniture, toys, and other goods Americans buy today are made in distant countries, often by underpaid people working in sweatshop conditions. The raw material for many of those products comes from clearcutting or strip mining or other disastrous means of extraction. Here at home, business activity is centered on designing those products, financing their manufacture, marketing them — and counting the profits.

KELLOGG'S VISION, DESPITE ITS POPULARITY with his employees, had little support among his fellow business leaders. But Dahlberg's book had a major influence on Senator (and future Supreme Court justice) Hugo Black who, in 1933, introduced legislation requiring a thirty-hour workweek. Although Roosevelt at first appeared to support Black's bill, he soon sided with the majority of businessmen who opposed it. Instead, Roosevelt went on to launch a series of policy initiatives that led to the forty-hour standard that we more or less observe today.

By the time the Black bill came before Congress, the prophets of the gospel of consumption had been developing their tactics and techniques for at least a decade. However, as the Great Depression deepened, the public mood was uncertain, at best, about the proper role of the large corporation. Labor unions were gaining in both public support and legal legitimacy, and the Roosevelt administration, under its New Deal program, was implementing government regulation of industry on an unprecedented scale. Many corporate leaders saw the New Deal as a serious threat. James A. Emery, general counsel for the National Association of Manufacturers (NAM), issued a "call to arms" against the "shackles of irrational regulation" and the "back-breaking burdens of taxation," characterizing the New Deal doctrines as "alien invaders of our national thought."

In response, the industrial elite represented by NAM, including General Motors, the big steel companies, General Foods, DuPont, and others, decided to create their own propaganda. An internal NAM memo called for "re-selling all of the individual Joe Doakes on the advantages and benefits he enjoys under a competitive economy." NAM launched a massive public relations campaign it called the "American Way." As the minutes of a NAM meeting described it, the purpose of the campaign was to link "free enterprise in the public consciousness with free speech, free press and free religion as integral parts of democracy."

Consumption was not only the linchpin of the campaign; it was also recast in political terms. A campaign booklet put out by the J. Walter Thompson advertising agency told readers that under "private capitalism, the Consumer, the Citizen is boss," and "he doesn't have to wait for election day to vote or for the Court to convene before handing down his verdict. The consumer 'votes' each time he buys one article and rejects another."

According to Edward Bernays, one of the founders of the field of public relations and a principal architect of the American Way, the choices available in the polling booth are akin to those at the department store; both should consist of a limited set of offerings that are carefully determined by what Bernays called an

"invisible government" of public-relations experts and advertisers working on behalf of business leaders. Bernays claimed that in a "democratic society" we are and should be "governed, our minds . . . molded, our tastes formed, our ideas suggested, largely by men we have never heard of."

NAM formed a national network of groups to ensure that the booklet from J. Walter Thompson and similar material appeared in libraries and school curricula across the country. The campaign also placed favorable articles in newspapers (often citing "independent" scholars who were paid secretly) and created popular magazines and film shorts directed to children and adults with such titles as "Building Better Americans," "The Business of America's People Is Selling," and "America Marching On."

Perhaps the biggest public relations success for the American Way campaign was the 1939 New York World's Fair. The fair's director of public relations called it "the greatest public relations program in industrial history," one that would battle what he called the "New Deal propaganda." The fair's motto was "Building the World of Tomorrow," and it was indeed a forum in which American corporations literally modeled the future they were determined to create. The most famous of the exhibits was General Motors' 35,000-square-foot Futurama, where visitors toured Democracity, a metropolis of multilane highways that took its citizens from their countryside homes to their jobs in the skyscraper-packed central city.

For all of its intensity and spectacle, the campaign for the American Way did not create immediate, widespread, enthusiastic support for American corporations or the corporate vision of the future. But it did lay the ideological groundwork for changes that came after the Second World War, changes that established what is still commonly called our post-war society.

The war had put people back to work in numbers that the New Deal had never approached, and there was considerable fear that unemployment would return when the war ended. Kellogg workers had been working forty-eight-hour weeks during the war and the majority of them were ready to return to a six-hour day and thirty-hour week. Most of them were able to do so, for a while. But W. K. Kellogg and Lewis Brown had turned the company over to new managers in 1937.

The new managers saw only costs and no benefits to the six-hour day, and almost immediately after the end of the war they began a campaign to undermine shorter hours. Management offered workers a tempting set of financial incentives if they would accept an eight-hour day. Yet in a vote taken in 1946, 77 percent of the men and 87 percent of the women wanted to return to a thirty-hour week rather than a forty-hour one. In making that choice, they also chose a fairly dramatic drop in earnings from artificially high wartime levels.

The company responded with a strategy of attrition, offering special deals on a department-by-department basis where eight hours had pockets of support, typically among highly skilled male workers. In the culture of a post-war, post-Depression U.S., that strategy was largely successful. But not everyone went along. Within Kellogg there was a substantial, albeit slowly dwindling group of people Hunnicutt calls the "mavericks," who resisted longer work hours. They clustered in a few departments that had managed to preserve the six-hour day until the company eliminated it once and for all in 1985.

The mavericks rejected the claims made by the company, the union, and many of their co-workers that the extra money they could earn on an eight-hour shift was worth it. Despite the enormous difference in societal wealth between the 1930s and the 1980s, the language the mavericks used to explain their preference for a six-hour workday was almost identical to that used by Kellogg workers fifty years earlier. One woman, worried about the long hours worked by her son, said, "He has no time to live, to visit and spend time with his family, and to do the other things he really loves to do."

Several people commented on the link between longer work hours and consumerism. One man said, "I was getting along real good, so there was no use in me working any more time than I had to." He added, "Everybody thought they were going to get rich when they got that eight-hour deal and it really didn't make a big difference. . . . Some went out and bought

automobiles right quick and they didn't gain much on that because the car took the extra money they had."

The mavericks, well aware that longer work hours meant fewer jobs, called those who wanted eight-hour shifts plus overtime "work hogs." "Kellogg's was laying off people," one woman commented, "while some of the men were working really fantastic amounts of overtime — that's just not fair." Another quoted the historian Arnold Toynbee, who said, "We will either share the work, or take care of people who don't have work."

PEOPLE IN THE DEPRESSION-WRACKED 1930s, with what seems to us today to be a very low level of material goods, readily chose fewer work hours for the same reasons as some of their children and grandchildren did in the 1980s: to have more time for themselves and their families. We could, as a society, make a similar choice today.

But we cannot do it as individuals. The mavericks at Kellogg held out against company and social pressure for years, but in the end the marketplace didn't offer them a choice to work less and consume less. The reason is simple: that choice is at odds with the foundations of the marketplace itself — at least as it is currently constructed. The men and women who masterminded the creation of the consumerist society understood that theirs was a political undertaking, and it will take a powerful political movement to change course today.

Bernays's version of a "democratic society," in which political decisions are marketed to consumers, has many modern proponents. Consider a comment by Andrew Card, George W. Bush's former chief of staff. When asked why the administration waited several months before making its case for war against Iraq, Card replied, "You don't roll out a new product in August." And in 2004, one of the leading legal theorists in the United States, federal judge Richard Posner, declared that "representative democracy . . . involves a division between rulers and ruled," with the former being "a governing class," and the rest of us exercising a form of "consumer sovereignty" in the political sphere with "the power not to buy a particular product, a power to choose though not to create."

Sometimes an even more blatant antidemocratic stance appears in the working papers of elite think tanks. One such example is the prominent Harvard political scientist Samuel Huntington's 1975 contribution to a Trilateral Commission report on "The Crisis of Democracy." Huntington warns against an "excess of democracy," declaring that "a democratic political system usually requires some measure of apathy and noninvolvement on the part of some individuals and groups." Huntington notes that "marginal social groups, as in the case of the blacks, are now becoming full participants in the political system" and thus present the "danger of overloading the political system" and undermining its authority.

According to this elite view, the people are too unstable and ignorant for self-rule. "Commoners," who are viewed as factors of production at work and as consumers at home, must adhere to their proper roles in order to maintain social stability. Posner, for example, disparaged a proposal for a national day of deliberation as "a small but not trivial reduction in the amount of productive work." Thus he appears to be an ideological descendant of the business leader who warned that relaxing the imperative for "more work and better work" breeds "radicalism."

As far back as 1835, Boston workingmen striking for shorter hours declared that they needed time away from work to be good citizens: "We have rights, and we have duties to perform as American citizens and members of society." As those workers well understood, any meaningful democracy requires citizens who are empowered to create and re-create their government, rather than a mass of marginalized voters who merely choose from what is offered by an "invisible" government. Citizenship requires a commitment of time and attention, a commitment people cannot make if they are lost to themselves in an ever-accelerating cycle of work and consumption.

We can break that cycle by turning off our machines when they have created enough of what we need. Doing so will give us an opportunity to re-create the kind of healthy communities that were beginning to emerge with Kellogg's six-hour day, communities in which human welfare is the overriding concern rather

than subservience to machines and those who own them. We can create a society where people have time to play together as well as work together, time to act politically in their common interests, and time even to argue over what those common interests might be. That fertile mix of human relationships is necessary for healthy human societies, which in turn are necessary for sustaining a healthy planet.

If we want to save the Earth, we must also save ourselves from ourselves. We can start by sharing the work and the wealth. We may just find that there is plenty of both to go around.

Earthbound: On Solid Ground by bell hooks

from The Colors of Nature: Culture, Identity, and the Natural World, 2002

Kentucky hills were the place of my early childhood. Surrounded by a wilderness of honeysuckle, wild asparagus, and sheltering trees, bushes shielding growing crops, the huge garden of a black landowner. Our concrete house on the hill, a leftover legacy from oil drilling, from the efforts of men to make the earth yield greater and greater profit stood as a citadel to capitalism's need for a new frontier. A child of the hills, I was taught early on in my life the power in nature. I was taught by farmers that wilderness land, the untamed environment can give life and it can take life. In my girlhood I learned to watch for snakes, wildcats roaming, plants that irritate and poison. I know instinctively; I know because I am told by all knowing grown-ups that it is humankind and not nature that is the stranger on these grounds. Humility in relationship to nature's power made survival possible.

Coming from "backwoods" folks, Appalachian outlaws, as a child I was taught to understand that those among us who lived organically, in harmony and union with nature were marked with a sensibility that was distinct, and downright dangerous. Backwoods folks tend to ignore the rules of society, the rules of law. In the backwoods one learned to trust only the spirit, to follow where the spirit moved. Ultimately, no matter what was said or done, the spirit called to us from a place beyond words, from a place beyond man made law. The wild spirit of unspoiled nature worked its way in to the folk of the backwoods, an ancestral legacy, handed down from generation to generation. And its fundamental gift the cherishing of that which is most precious, freedom. And to be fully free one had to embrace the organic rights of the earth.

Humankind, no matter how powerful, cannot take away the rights of the earth. Ultimately, nature rules. That is the great democratic gift earth offers us — that sweet death to which we all inevitably go — into that final communion No race, no class, no gender, nothing can keep any of us from dying into that death where we are made one. To tend the earth is always then to tend our destiny, our freedom and our hope.

These lessons of my girlhood were the oppositional narratives that taught me to care for the earth, to respect country folk. This respect for the earth, for the country girl within, stood me in good stead when I left this environment and entered a world beyond the country town I was raised in. It was only when I left home, that country place where nature's splendors were abundant and not yet destroyed, that I understood for the first time the contempt for country folk that abounds in our nation. That contempt has led to the cultural disrespect for the farmer, for those who live simply in harmony with nature. Writer, sometime farmer, and poet Wendell Berry, another Kentuckian, who loves our land, writes in *Another Turn of the Crank* in the essay "Conserving Communities" that: "Communists and capitalists are alike in their contempt for country people, country life, and country places."

Before the mass migrations to northern cities in the early nineteen hundreds, more than ninety percent of all black folks lived in the agrarian South. We were indeed a people of the earth. Working the land was the hope of survival. Even when that land was owned by white oppressors, master and mistress, it was the earth itself that protected exploited black folks from dehumanization. My sharecropping granddaddy

Jerry would walk through neat rows of crops and tell me, "I'll tell you a secret little girl. No man can make the sun or the rains come — we can all testify. We can all see that ultimately we all bow down to the forces of nature. Big white boss may think he can outsmart nature but the small farmer know. Earth is our witness." This relationship to the earth meant that southern black folks, whether they were impoverished or not, knew firsthand that white supremacy, with its systemic dehumanization of blackness, was not a form of absolute power.

In that world country black folks understood that though powerful white folks could dominate and control people of color they could not control nature or divine spirit. The fundamental understanding that white folks were not gods (for if they were they could shape nature) helped imbue black folks with an oppositional sensibility. When black people migrated to urban cities, this humanizing connection with nature was severed; racism and white supremacy came to be seen as all powerful, the ultimate factors informing our fate. When this thinking was coupled with a breakdown in religiosity, a refusal to recognize the sacred in everyday life, it served the interests of white supremacist capitalist patriarchy.

Living in the agrarian South, working on the land, growing food, learned survival skills similar to those hippies sought to gain in their back to the earth movements in the late sixties and early seventies. Growing up in a world where my grandparents did not hold regular jobs but made their living digging and selling fishing worms, growing food, raising chickens, I was evermindful of an alternative to the capitalist system that destroyed nature's abundance. In that world I learned experientially the concept of interbeing, which Buddhist monk Thich Nhat Hanh talks about as that recognition of the connectedness of all human life.

That sense of interbeing was once intimately understood by black folks in the agrarian South. Nowadays it is only those who maintain our bonds to the land, to nature, who keep our vows of living in harmony with the environment, who draw spiritual strength for nature, Reveling in nature's bounty and beauty has been one of the ways enlightened poor people in small towns all around our nations stay in touch with their essential goodness even as forces of evil, in the form of corrupt capitalism and hedonistic consumerism, work daily to strip them of their ties with nature.

Journalists from the *New York Times* who interviewed Kentucky po' rural folk getting by with scarce resources were surprised to find these citizens expressing connection to nature. In a recent article in the *Times* titled "Forget Washington. The Poor Cope Alone" reporter Evelyn Nieves shared: "People time and again said they were blessed to live in a place as beautiful as Kentucky, where the mountains are green and lush and the trees look as old as time." Maintaining intimacy gives us a concrete place of hope. It is nature that reminds time and time again that "this too will pass." To look upon a tree, or a hilly waterfall, that has stood the test of time can renew the spirit. To watch plants rise from the earth with no special tending reawakens our sense of awe and wonder.

More than ever before in our nation's history black folks must collectively renew our relationship to the earth, to our agrarian roots. For when we are forgetful and participate in the destruction and exploitation of dark earth, we collude with the domination of the earth's dark people, both here and globally. Reclaiming our history, our relationship to nature, to farming in America, and proclaiming the humanizing restorative of living in harmony with nature so that earth can be our witness is meaningful resistance.

When I leave my small flat in an urban world where nature has been so relentlessly assaulted that it is easy to forget to look at a tree, a sky, a flower emerging in a sea of trash, and go to the country, I seek renewal. To live in communion with the earth fully acknowledging nature's power with humility and grace is a practice of spiritual mindfulness that heals and restores. Making peace with the earth we make the world a place where we can be one with nature. We create and sustain environments where we can come back to ourselves, where we can return home, stand on solid ground, and be a true witness.

Do we really love our land? by David James Duncan

What do people mean when they speak of “love of the land?” Most Americans claim to feel such a love.

Most Americans also move, on average, every four years. Is this the behavior of true land lovers?

In James Galvin's “The Meadow,” a man named Lyle falls in love with a single high-mountain meadow in Colorado, moves into a cabin at meadow's edge, and stays there for 50 years.

Near the end of this half-century meadow-man relationship, we see what true love of land does to human behavior: “The way people watch television while they eat—looking up to the TV and down to take a bite and back up—that’s how Lyle watches the meadow out the south window while he eats his breakfast.

“He's hooked on the plot and doesn't want to miss anything. He looks out over the rim of his cup as he sips."

To pawn off a true love for new love every four years is not love at all. True land love is a romance.

In the company of the ground we cherish, we can't tear our eyes away, don't want be anywhere else, don't need anyone else. We want to know our loved land in nuance and depth, want to serve and preserve and give to and receive from it.

We watch it over the rim of our cup as we sip.

Sometimes love of land is palpable, as with Lyle and his meadow, John Muir and his Sierras, Wendell Berry and his Kentucky soil. But when we seek to hone in on our own land and love, the loves of Galvin, Muir and Berry can't help us.

What helps is finding for ourselves what Lyle found for Lyle: the place we can't tear our eyes from, the plot that won't let us go.

For me these past 40 years, that place and plot has been rivers. And it was obvious from the start.

When I was a toddler living in a dehydrated Portland suburb, I took a garden hose to a sloping flower bed every summer morn and built my own little rivers. When I grew old enough to bicycle, I rode to real ones.

When I grew old enough to move to one, I did. I'm living by one now. Why? The farmer Paul Gruchow writes:

“To inhabit a place means literally to have made it a habit, to have learned how to wear a place like a familiar garment, like the garments of sanctity that nuns once wore. The word habit, in its now-dim original form, means to own. We own places not because we possess the deeds to them but because they have entered the continuum of our lives."

I consciously chose a life of rivers, words and contemplation over, among other things, any real possibility of a large income, because rivers, words and contemplation are the nouns that have most vividly invaded my life. I've made it my habit, my wearable habit, to walk aimlessly along in water as often as I can.

I used to call these walks “fishing trips.” For diplomatic purposes among those scared of pagans—or worse, mystics—I still do.

But I long ago realized that these aimless waterwalks show me, more than anything else I do, how to inhabit and wear my chosen home.

I've spent thousands of days now, in the waders I call my “portable sweat lodge” simply walking in water. I possess no deed to any river I've strolled. Yet I possess no friend or family member with whom I've spent more time than I've spent in rivers.

And I dare say that, in their hard-to-describe wild way, rivers have befriended me in return. They're very cool in their friendships, incapable of sentimentality or preferential treatment, and would always as soon drown as coddle you.

Yet if you touch a river's skin with the least tip of your finger, it reconfigures everything it was doing in instantaneous response. Is there a better name than friend for something this ready to answer your touch?

On a recent waterwalk near my Western Montana home, I stumbled upon two Americans engaged in a “love of the land” so passionate that

I instantly felt like a voyeur. Like Lyle, though, I couldn't stop watching.

I'd been fishing for cutthroat, the fishing was good, and I was in Idaho mountains 700 river miles from the Pacific. As I strolled through a glide as clear as air, though, my heart and brain did simultaneous somersaults at the sight of two fish easily 15 times the size of the trout I'd been happily catching.

They were hard to accept as real.

One moment this water held no life forms larger than trout, sculpins, clusters of caddis flies. The next it housed two beings the size of my kids.

Where had they come from? The answer sounds like a fairy tale: the far reaches of the sea. How had they arrived?

Another fairy tale: by swimming against one of the most powerful rivers on Earth and past eight deadly dams, all the way up from the Pacific.

Why had they done this? Another wonder: These colored stones and clear currents, so high and far from the sea, once gave them life. So now they'd become mountain climbers, returning home at the certain cost of their lives, to create tiny silver offspring.

What does it mean to truly love one's land? Is it still possible in the age of you name it —the Happy Meal, the Viagra shill, the Jerry Manson, Marilyn Stern, Howard Falwell Show— to form a hallowed bond to a small piece of Earth, leave that bond behind in your outward-bound youth, but later decide to fight, with all your adult might, to reclaim it?

I slipped to my knees in the water behind two spawning chinook salmon to try to find out.

The current swirled round half of me and all of the chinook, coming in small uneven surges that rocked my body. It felt like riding a quiet horse. The salmon moved in rhythm with the same horse.

Since they faced upstream, I turned that way, too. Mountains veered down toward the river, their timbered ridges freshly dusted with snow. A dipping sun glowed like a salmon egg in the canyon haze before us.

I noticed scars on the female's tail, saw the fresh-dug excavation beneath her belly: the redd. Seven hundred miles from the ocean that fed and protected her, she'd turned her body into a shovel and dug, in the very bone of this planet, a home for offspring she could only feel inside her —offspring she would not live long enough to see.

What does it mean to love one's land or one's children?

Suddenly the male eased in front, turned on his side, and milt melted down into the nest of stones. Feeling the horselike rhythm of the river now, I blushed.

This was definitely the rhythm of a lovemaking. But watching the two huge fish circle the redd, tending and touching their stone nest but only incidentally touching one another, I was struck by the truth: These salmon were not making love to each other. They were making love to the land and water itself.

I looked upstream, saw the mountains veering down toward the water. The current flowing past us was the melting snow, the gravel beneath the broken body, of those same mountains. The salmon were making love to the mountains and the snow.

I couldn't stop watching, couldn't get unhooked from the plot. Till darkness fell, I watched. To 700 miles of river, to the mountains on both sides, the salmon just kept making love.

There is a fire in water. There's an invisible flame, hidden in water, that creates not heat but life.

I felt the flame run through and past us. And I was fed, I was sated, I'd had all the fire and fish I needed when at last I rose from the river, thanked salmon, sea and mountains, and set out for home.

Epiphany in the Beans by Robin Wall Kimmerer

from Braiding Sweetgrass, 2013

It came to me while picking beans, the secret of happiness.

I was hunting among the spiraling vines that envelop my teepees of pole beans, lifting the dark-green leaves to find handfuls of pods, long and green, firm and furred with tender fuzz. I snapped them off where they hung in slender

twosomes, bit into one, and tasted nothing but August, distilled into pure, crisp beaniness. This summer abundance is destined for the freezer, to emerge again in deep midwinter when the air tastes only of snow. By the time I finished searching through just one trellis, my basket was full.

To go and empty it in the kitchen, I stepped between heavy squash vines and around tomato plants fallen under the weight of their fruit. They sprawled at the feet of the sunflowers, whose heads bowed with the weight of maturing seeds. Lifting my basket over the row of potatoes, I noticed an open furrow revealing a nest of red skins where the girls left off harvesting that morning. I kicked some soil over them so the sun wouldn't green them up.

They complain about garden chores, as kids are supposed to do, but once they start they get caught up in the softness of the dirt and the smell of the day and it is hours later when they come back into the house. Seeds for this basket of beans were poked into the ground by their fingers back in May. Seeing them plant and harvest makes me feel like a good mother, teaching them how to provide for themselves.

The seeds, though, we did not provide for ourselves. When Skywoman buried her beloved daughter in the earth, the plants that are special gifts to the people sprang from her body. Tobacco grew from her head. From her hair, sweetgrass. Her heart gave us the strawberry. From her breasts grew corn, from her belly the squash, and we see in her hands the long-fingered clusters of beans.

How to I show my girls I love them on a morning in June? I pick them wild strawberries. On a February afternoon we build snowmen and then sit by the fire. In March we make maple syrup. We pick violets in May and go swimming in July. On an August night we lay out blankets and watch meteor showers. In November, that great teacher the woodpile comes into our lives. That's just the beginning. How do we show our children our love? Each in our own way by a shower of gifts and a heavy rain of lessons.

Maybe it was the smell of ripe tomatoes, or the oriole singing, or that certain slant of light on a yellow afternoon and the beans hanging thick around me. It just came to me in a wash of happiness that made me laugh out loud, startling the chickadees who were picking at the sunflowers, raining black and white hulls on the ground. I knew it with a certainty as warm and clear as the September sunshine. The land loves us back. She loves us with beans and tomatoes, with roasting ears and blackberries and birdsongs. By a shower of gifts and a heavy rain of lessons. She provides for us and teaches us to provide for ourselves. That's what good mothers do.

I looked around the garden and could feel her delight in giving us these beautiful raspberries, squash, basil, potatoes, asparagus, lettuce, kale and beets, broccoli, peppers, brussels sprouts, carrots, dill, onions, leeks, spinach. It reminded me of my little girls' answer to "How much do I love you?" "Thiiiiiiiis much," with arms stretched wide, they replied. This is really why I made my daughters learn to garden —so they would always have a mother to love them, long after I am gone.

The epiphany in the beans. I spend a lot of time thinking about our relationships with land, how we are given so much and what we might give back. I try to work through the equations of reciprocity and responsibility, the whys and wherefores of building sustainable relationships with ecosystems. All in my head. But suddenly there was no intellectualizing, no rationalizing, just the pure sensation of baskets full of mother love. The ultimate reciprocity, loving and being loved in return.

Now, the plant scientist who sits at my desk and wears my clothes and sometimes borrows my car—she might cringe to hear me assert that a garden is a way that the land says, "I love you." Isn't it supposed to be just a matter of increasing net primary productivity of the artificially selected domesticated genotypes, manipulating environmental conditions through input of labor and materials to enhance yield? Adaptive cultural behaviors that produce a nutritious diet and increase individual fitness are selected for. What's love got to do with it? If a garden thrives, it loves you? If a garden fails, do you attribute potato blight with a withdrawal of affection? Do unripe peppers signal a rift in the relationship?

I have to explain things to her sometimes. Gardens are simultaneously a material and a spiritual undertaking. That's hard for scientists, so fully brainwashed by Cartesian dualism, to grasp. "Well, how would you know it's love and not just good soil?" she asks. "Where's the evidence? What are the key elements for detecting loving behavior?"

That's easy. No one would doubt that I love my children, and even a quantitative social psychologist would find no fault with my list of loving behaviors:

- nurturing health and well-being
- protections from harm
- encouraging individual growth and development
- desire to be together
- generous sharing of resources
- working together for a common goal
- celebration of shared values
- interdependence
- sacrifice by one for the other
- creation of beauty

If we observed these behaviors between humans, we would say, "She loves that person." You might also observe these actions between a person and a bit of carefully tended ground and say, "She loves that garden." Why then, seeing this list, would you not make the leap to say that the garden loves her back?

The exchange between plants and people has shaped the evolutionary history of both. Farms, orchards, and vineyards are stocked with species we have domesticated. Our appetite for their fruits leads us to till, prune, irrigate, fertilize, and weed on their behalf. Perhaps they have domesticated us. Wild plants have changed to stand in well-behaved rows and wild humans have changed to settle alongside the fields and care for the plants—a kind of mutual taming.

We are linked in a co-evolutionary circle. The sweeter the peach, the more frequently we disperse its seeds, nurture its young, and protect them from harm. Food plants and people act as selective forces on each other's evolution—the thriving of one in the best interest of the other. This, to me, sounds a bit like love.

I sat once in a graduate writing workshop on relationships to the land. The students all demonstrated a deep respect and affection for nature. They said that nature was the place where they experienced the greatest sense of belonging and well-being. They professed without reservation that they loved the earth. And then I asked them, "Do you think that the earth loves you back?" No one was willing to answer that. It was as if I had brought a two-headed porcupine into the classroom. Unexpected. Prickly. They backed slowly away. Here was a room full of writers, passionately wallowing in unrequited love of nature.

So I made it hypothetical and asked, "What do you suppose would happen *if* people believed this crazy notion that the earth loved them back?" The floodgates opened. They all wanted to talk at once. We were suddenly off the deep end, heading for world peace and perfect harmony.

One student summed it up: "You wouldn't harm what gives you love."

Knowing that you love the earth changes you, activates you to defend and protect and celebrate. But when you feel that the earth loves you in return, that feeling transforms the relationship from a one-way street into a sacred bond.

My daughter Linden grows one of my favorite gardens in the world. She brings up all kinds of good things to eat from her thin mountain soil, things I can only dream of, like tomatillos and chile. She makes compost and flowers, but the best part isn't the plants. It's that she phones me to chat while she weeds. We water and weed and harvest, visiting happily as we did when she was a girl despite the three thousand miles between us. Linden is immensely busy, and so I ask her why she gardens, given how much time it takes.

She does it for the food and the satisfaction of hard work yielding something so prolific, she says. And it makes her feel at home in a place, to have her hands in the earth. I ask her, "Do you love your garden?" even though I already know the answer. But then I ask, tentatively, "Do you feel that your garden loves you back" She's quiet for a minute; she's never glib about such things. "I'm certain of it," she

says. “My garden takes care of me like my own mama.” I can die happy.

I once knew and loved a man who lived most of his life in the city, but when he was dragged off to the ocean or the woods he seemed to enjoy it well enough—as long as he could find an Internet connection. He had lived in a lot of places, so I asked him where he found his greatest sense of place. He didn’t understand the expression. I explained that I wanted to know where he felt most nurtured and supported. What is the place that you understand best? That you know the best and knows you in return?

He didn’t take long to answer. “My car,” he said. “In my car. It provides me with everything I need, in just the way I like it. My favorite music. Seat position fully adjustable. Automatic mirrors. Two cup holders. I’m safe. And it always takes me where I want to go.” Years later, he tried to kill himself. In his car.

He never grew a relationship with the land, choosing instead the splendid isolation of technology. He was like one of those little withered seeds you find in the bottom of the seed packet, the one who never touched the earth.

I wonder if much that ails our society stems from the fact the we have allowed ourselves to be cut off from that love of, and from, the land. It is medicine for broken land and empty hearts.

Larkin used to complain mightily about weeding. But now when she comes home, she asks if she can go dig potatoes. I see her on her knees, unearthing red skins and Yukon Golds and singing to herself. Larkin is in graduate school now, studying food systems and working with urban gardeners, growing vegetables for the food pantry on land reclaimed from empty lots. At-risk youth do the planting and hoeing and harvesting. The kids are surprised that the food they harvest is free. They’ve had to pay for everything they’ve ever gotten before. They greet fresh carrots, straight from the ground, with suspicion at first, until they eat one. She is passing on the gift, and the transformation is profound.

Of course, much of what fills our mouths is taken forcibly from the earth. That form of taking does no honor to the farmer, to the plants, or to the disappearing soil. It’s hard to recognize food that is mummified in plastic, bought and sold, as a gift anymore. Everybody knows you can’t buy love.

In a garden, food arises from partnership. If I don’t pick rocks and pull weeds, I’m not fulfilling my end of the bargain. I can do these things with my handy opposable thumb and capacity to use tools, to shovel manure. But I can no more create a tomato or embroider a trellis in beans than I can turn lead in to gold. That is the plants’ responsibility and their gift: animating the inanimate. Now *there* is a gift.

People often ask me what one thing I would recommend to restore relationship between land and people. My answer is almost always, “Plant a garden.” It’s good for the health of the earth and it’s good for the health of people. A garden is a nursery for nurturing connection, the soil for cultivation of practical reverence. And its power goes far beyond the garden gate—once you develop a relationship with a little patch of earth, it becomes a seed itself.

Something essential happens in a vegetable garden. It’s a place where if you can’t say “I love you” out loud, you can say it in seeds. And the land will reciprocate, in beans.

What Outdoor Education Didn’t Teach Me by Dev Carey

from High Country News, June 1996

“*It is remarkable that there is little or nothing to be remembered written on the subject of getting a living; how to make living not merely honest and honorable, but altogether inviting and glorious; for if getting a living is not so, then living is not.”—Henry David Thoreau*

When I was 18, I fell in love with my college outdoor instructor. Joan could scamper up a 5.10 rock face and then turn around and almost cry when she talked about the drowned valley of Hetch Hetchy. She was radiant. She knew how to listen. She had ease, confidence and a tan. She had a noble profession, and she loved her job. I had no choice; I became an outdoor educator.

I met many more people like Joan. People who cared about kids and wilderness. People who combined fun and work. They taught me, and together, we taught kids.

We taught about reverence and risk-taking, self-responsibility and self-confidence. We took people out of their modern-day, comfortable lives, plunged them into wilderness, and proved it nothing to fear. We taught that away from possessions and phones, potato chips and people, they could still smile, breathe deep and feel full of simple purpose. We used words like ecosystem and human disturbance, trophic level and sustainable, and as we talked, we let them see and feel beauty unfiltered by air pollution, noise or fear.

And sometimes it worked. We'd see the beginnings of a passionate, vibrant person searching for a way to live more simply and close to wilderness. We'd smile and encourage them to become outdoor educators. Something about that advice bothered me; I began to look around. I noticed that we outdoor educators traveled from river to river in Toyota pickup trucks with kayaks on top and climbing ropes and beer inside. Our toys were pile, Gore-Tex and tempered steel. Even a "no-impact" wilderness trip modeled consumption. We ate food grown in Kansas and packaged in Seattle, cooked with fuel from the Persian Gulf and zipped ourselves into sleeping bags sewn in Taiwan. In the end we'd haul our waste to the already over-worked city sewer system and landfill. We preserved the wilderness, it seemed, at the cost of just about every place else.

I could justify the lack of simplicity. If it preserved wilderness while teaching people about it, then it was worth it. But there was a bigger problem. Not only didn't we model the simplicity we preached, I was beginning to suspect we didn't live all that close to wilderness either. True, we spent more time out there than just about anybody, and most of us had plenty of reverence, but the relationship seemed more like a love/hate affair than a true marriage. Why, if we were so close to wilderness, did we always leave to go home? And why was home, for most of us and our clients, some suburb several states away? Why was it that most outdoor educators were young and single and that around age 30 they go suddenly anxious, started talking about a "real life" and suddenly disappeared? Why was it that we were ever moving on, seeking something bigger or steeper or more remote? Why was it that we avoided, even disdained, people who lived off the land—loggers, miners, ranchers, hunters, hicks—yet most of us were dependent on these people and the local store to survive? Why?

But before I figured it out I hit 30 and got struck by my own nesting urge. I moved to a small town and set about trying to live the sustainable, simple, close-to-wilderness ideals I'd been teaching. The truth hit me then—I didn't know how. All the habits I'd developed in my outdoor education years ran contrary to the ideals I'd been teaching. My habit was to go on a road trip for vacation; to live simply I had to learn how to stay home, to climb the same mountain twice and see wilderness in an overgrown pasture. My habit was to "leave no trace," but to live simply, I had to leave many traces. I had to clear a garden spot, divert water from the river to irrigate, cut trees for fuel and shelter, and kill a few deer. I had to learn applied skills, in which, despite my long resume, I was remarkably deficient. I had to learn not to devote my life to my job, to save plenty of time and energy for proper living. I had to learn to find the same thrill and loss of self in planting a tree that I used to get out of surfing a big hole. And I had to find new people for role models.

It took awhile. It took deciding to teach a small, integrated curriculum to a few kids and then getting to know their parents. Most of them had never been to college or heard of the Bio-Bio River, but when it came to living simply and locally, they were light-years ahead of me. They knew how to grow potatoes in the local clay, how to birth at home, how to fix all their tools, how to trade carrots for doctoring, and how to invite the neighbors for dinner. Moreover, I was surprised to find that most of these people loved things wild. They knew where the badger burrowed and how fast the cottonwoods had grown. They knew the local trails and how to find wilderness without the help of government designation. These people are now my teachers, and as I consume less and know the local more, I feel as

close to wilderness as I ever did backpacking in the Wind River Range.

And now I understand why that past advice—"become an outdoor educator"—bothered me. The life of an outdoor educator is, for the most part, a life of wilderness trips supported by the very complex, nonsustainable, resource-consuming civilization that ultimately destroys wilderness. It is a lifestyle that destroys what one reveres, while accepting little of the blame. It is a lifestyle that offers few answers.

Outdoor education, when it exposes people to wilderness, may be the first step toward inspiring a way of life that can coexist with the land rather than destroy it. But it is only the first step. Enduring change comes from home. And before we outdoor educators can teach kids how to care for home, we have to learn something about it.

I'm studying on it. Joan as a role model has been replaced.

The Rights of Nature

As enshrined in the 2008 constitution of the Republic of Ecuador. Translated from the Spanish.

Article 71.

Nature, or Pacha Mama, where life is reproduced and occurs, has the right to integral respect for its existence and for the maintenance and regeneration of its life cycles, structure, functions and evolutionary processes.

All persons, communities, peoples and nations can call upon public authorities to enforce the rights of nature. To enforce and interpret these rights, the principles set forth in the Constitution shall be observed, as appropriate.

The State shall give incentives to natural persons and legal entities and to communities to protect nature and to promote respect for all the elements comprising an ecosystem.

Article 72.

Nature has the right to be restored. This restoration shall be apart from the obligation of the State and natural persons or legal entities to compensate individuals and communities that depend on affected natural systems.

In those cases of severe or permanent environmental impact, including those caused by the exploitation of nonrenewable natural resources, the State shall establish the most effective mechanisms to achieve the restoration and shall adopt adequate measures to eliminate or mitigate harmful environmental consequences.

Article 73.

The State shall apply preventive and restrictive measures on activities that might lead to the extinction of species, the destruction of ecosystems and the permanent alteration of natural cycles.

The introduction of organisms and organic and inorganic material that might definitively alter the nation's genetic assets is forbidden.

Article 74. Persons, communities, peoples, and nations shall have the right to benefit from the environment and the natural wealth enabling them to enjoy the good way of living.

Environmental services shall not be subject to appropriation; their production, delivery, use and development shall be regulated by the State.

Universal Declaration of the Rights of Mother Earth

World People's Conference on Climate Change and the Rights of Mother Earth, Cochabamba, Bolivia, April 22, 2010

Preamble

We, the peoples and nations of Earth: considering that we are all part of Mother Earth, an indivisible, living community of interrelated and interdependent beings with a common destiny; gratefully acknowledging that Mother Earth is the source of life, nourishment and learning and provides everything we need to live well;

recognizing that the capitalist system and all forms of depredation, exploitation, abuse and contamination have caused great destruction, degradation and disruption of Mother Earth, putting life as we know it today at risk through phenomena such as climate change; convinced that in an interdependent living community it is not possible to recognize the rights of only human beings without causing an imbalance within Mother Earth;

affirming that to guarantee human rights it is necessary to recognize and defend the rights of Mother Earth and all beings in her and that there are existing cultures, practices and laws that do so; conscious of the urgency of taking decisive, collective action to transform structures and systems that cause climate change and other threats to Mother Earth;

proclaim this Universal Declaration of the Rights of Mother Earth, and call on the General Assembly of the United Nation to adopt it, as a common standard of achievement for all peoples and all nations of the world, and to the end that every individual and institution takes responsibility for promoting through teaching, education, and consciousness raising, respect for the rights recognized in this Declaration and ensure through prompt and progressive measures and mechanisms, national and international, their universal and effective recognition and observance among all peoples and States in the world.

Article 1. Mother Earth

(1) Mother Earth is a living being.

(2) Mother Earth is a unique, indivisible, self-regulating community of interrelated beings that sustains, contains and reproduces all beings.

(3) Each being is defined by its relationships as an integral part of Mother Earth.

(4) The inherent rights of Mother Earth are inalienable in that they arise from the same source as existence.

(5) Mother Earth and all beings are entitled to all the inherent rights recognized in this Declaration without distinction of any kind, such as may be made between organic and inorganic beings, species, origin, use to human beings, or any other status.

(6) Just as human beings have human rights, all other beings also have rights which are specific to their species or kind and appropriate for their role and function within the communities within which they exist.

(7) The rights of each being are limited by the rights of other beings and any conflict between their rights must be resolved in a way that maintains the integrity, balance and health of Mother Earth.

Article 2. Inherent Rights of Mother Earth

(1) Mother Earth and all beings of which she is composed have the following inherent rights:

(a) the right to life and to exist;

(b)the right to be respected;

(c) the right to continue their vital cycles and processes free from human disruptions;

(d)the right to maintain its identity and integrity as a distinct, self-regulating and interrelated being;

(e) the right to water as a source of life;

(f) the right to clean air;

(g)the right to integral health;

(h) the right to be free from contamination, pollution and toxic or radioactive waste;

(i) the right to not have its genetic structure modified or disrupted in a manner that threatens it integrity or vital and healthy functioning;

(j) the right to full and prompt restoration the violation of the rights recognized in this Declaration caused by human activities;

(2) Each being has the right to a place and to play its role in Mother Earth for her harmonious functioning.

(3) Every being has the right to wellbeing and to live free from torture or cruel treatment by human beings.

Article 3. Obligations of human beings to Mother Earth

(1) Every human being is responsible for respecting and living in harmony with Mother Earth.

(2) Human beings, all States, and all public and private institutions must:

(a) act in accordance with the rights and obligations recognized in this Declaration;

(b)recognize and promote the full implementation and enforcement of the rights and obligations recognized in this Declaration;
(c) promote and participate in learning, analysis, interpretation and communication about how to live in harmony with Mother Earth in accordance with this Declaration;
(d) ensure that the pursuit of human wellbeing contributes to the wellbeing of Mother Earth, now and in the future;
(e) establish and apply effective norms and laws for the defence, protection and conservation of the rights of Mother Earth;
(f) respect, protect, conserve and where necessary, restore the integrity, of the vital ecological cycles, processes and balances of Mother Earth;
(g) guarantee that the damages caused by human violations of the inherent rights recognized in this Declaration are rectified and that those responsible are held accountable for restoring the integrity and health of Mother Earth;
(h) empower human beings and institutions to defend the rights of Mother Earth and of all beings;
(i) establish precautionary and restrictive measures to prevent human activities from causing species extinction, the destruction of ecosystems or the disruption of ecological cycles;
(j) guarantee peace and eliminate nuclear, chemical and biological weapons;
(k) promote and support practices of respect for Mother Earth and all beings, in accordance with their own cultures, traditions and customs;
(l) promote economic systems that are in harmony with Mother Earth and in accordance with the rights recognized in this Declaration.

Article 4. Definitions
(1) The term "being" includes ecosystems, natural communities, species and all other natural entities which exist as part of Mother Earth.
(2) Nothing in this Declaration restricts the recognition of other inherent rights of all beings or specified beings.

Everything I Need to Know I Learned in the Forest by Vandana Shiva

from Yes! Magazine, December 2012

My ecological journey started in the forests of the Himalaya. My father was a forest conservator, and my mother became a farmer after fleeing the tragic partition of India and Pakistan. It is from the Himalayan forests and ecosystems that I learned most of what I know about ecology. The songs and poems our mother composed for us were about trees, forests, and India's forest civilizations.

My involvement in the contemporary ecology movement began with "Chipko," a nonviolent response to the large-scale deforestation that was taking place in the Himalayan region.

In the 1970s, peasant women from my region in the Garhwal Himalaya had come out in defense of the forests.

Logging had led to landslides and floods, and scarcity of water, fodder, and fuel. Since women provide these basic needs, the scarcity meant longer walks for collecting water and firewood, and a heavier burden.

Women knew that the real value of forests was not the timber from a dead tree, but the springs and streams, food for their cattle, and fuel for their hearths. The women declared that they would hug the trees, and the loggers would have to kill them before killing the trees.

A folk song of that period said:

These beautiful oaks and rhododendrons,
They give us cool water
Don't cut these trees
We have to keep them alive.

In 1973, I had gone to visit my favorite forests and swim in my favorite stream before leaving for Canada to do my Ph.D. But the forests were gone, and the stream was reduced to a trickle.

I decided to become a volunteer for the Chipko movement, and I spent every vacation doing pad yatras (walking pilgrimages), documenting the deforestation and the work of

the forest activists, and spreading the message of Chipko.

One of the dramatic Chipko actions took place in the Himalayan village of Adwani in 1977, when a village woman named Bachni Devi led resistance against her own husband, who had obtained a contract to cut trees. When officials arrived at the forest, the women held up lighted lanterns although it was broad daylight. The forester asked them to explain. The women replied, "We have come to teach you forestry." He retorted, "You foolish women, how can you prevent tree felling by those who know the value of the forest? Do you know what forests bear? They produce profit and resin and timber."

The women sang back in chorus:

What do the forests bear?
Soil, water, and pure air.
Soil, water, and pure air
Sustain the Earth and all she bears.

Beyond Monocultures

From Chipko, I learned about biodiversity and biodiversity-based living economies; the protection of both has become my life's mission. As I described in my book *Monocultures of the Mind*, the failure to understand biodiversity and its many functions is at the root of the impoverishment of nature and culture.

The lessons I learned about diversity in the Himalayan forests I transferred to the protection of biodiversity on our farms. I started saving seeds from farmers' fields and then realized we needed a farm for demonstration and training. Thus Navdanya Farm was started in 1994 in the Doon Valley, located in the lower elevation Himalayan region of Uttarakhand Province. Today we conserve and grow 630 varieties of rice, 150 varieties of wheat, and hundreds of other species. We practice and promote a biodiversity-intensive form of farming that produces more food and nutrition per acre. The conservation of biodiversity is therefore also the answer to the food and nutrition crisis.

Navdanya, the movement for biodiversity conservation and organic farming that I started in 1987, is spreading. So far, we've worked with farmers to set up more than 100 community seed banks across India. We have saved more than 3,000 rice varieties. We also help farmers make a transition from fossil-fuel and chemical-based monocultures to biodiverse ecological systems nourished by the sun and the soil.

Biodiversity has been my teacher of abundance and freedom, of cooperation and mutual giving.

Rights of Nature On the Global Stage

When nature is a teacher, we co-create with her—we recognize her agency and her rights. That is why it is significant that Ecuador has recognized the "rights of nature" in its constitution. In April 2011, the United Nations General Assembly—inspired by the constitution of Ecuador and the Universal Declaration of the Rights of Mother Earth initiated by Bolivia—organized a conference on harmony with nature as part of Earth Day celebrations. Much of the discussion centered on ways to transform systems based on domination of people over nature, men over women, and rich over poor into new systems based on partnership.

The U.N. secretary general's report, "Harmony with Nature," issued in conjunction with the conference, elaborates on the importance of reconnecting with nature: "Ultimately, environmentally destructive behavior is the result of a failure to recognize that human beings are an inseparable part of nature and that we cannot damage it without severely damaging ourselves."

Separatism is indeed at the root of disharmony with nature and violence against nature and people. As the prominent South African environmentalist Cormac Cullinan points out, apartheid means separateness. The world joined the anti-apartheid movement to end the violent separation of people on the basis of color. Apartheid in South Africa was put behind us. Today, we need to overcome the wider and deeper apartheid—an eco-apartheid based on the illusion of separateness of humans from nature in our minds and lives.

The Dead-Earth Worldview

The war against the Earth began with this idea of separateness. Its contemporary seeds were sown when the living Earth was transformed into dead matter to facilitate the industrial revolution. Monocultures replaced

diversity. "Raw materials" and "dead matter" replaced a vibrant Earth. Terra Nullius (the empty land, ready for occupation regardless of the presence of indigenous peoples) replaced Terra Madre (Mother Earth).

This philosophy goes back to Francis Bacon, called the father of modern science, who said that science and the inventions that result do not "merely exert a gentle guidance over nature's course; they have the power to conquer and subdue her, to shake her to her foundations."

Robert Boyle, the famous 17th-century chemist and a governor of the Corporation for the Propagation of the Gospel Among the New England Indians, was clear that he wanted to rid native people of their ideas about nature. He attacked their perception of nature "as a kind of goddess" and argued that "the veneration, wherewith men are imbued for what they call nature, has been a discouraging impediment to the empire of man over the inferior creatures of God."

The death-of-nature idea allows a war to be unleashed against the Earth. After all, if the Earth is merely dead matter, then nothing is being killed.

As philosopher and historian Carolyn Merchant points out, this shift of perspective—from nature as a living, nurturing mother to inert, dead, and manipulable matter—was well suited to the activities that would lead to capitalism. The domination images created by Bacon and other leaders of the scientific revolution replaced those of the nurturing Earth, removing a cultural constraint on the exploitation of nature. "One does not readily slay a mother, dig into her entrails for gold, or mutilate her body," Merchant wrote.

What Nature Teaches

Today, at a time of multiple crises intensified by globalization, we need to move away from the paradigm of nature as dead matter. We need to move to an ecological paradigm, and for this, the best teacher is nature herself.

This is the reason I started the Earth University/Bija Vidyapeeth at Navdanya's farm.

The Earth University teaches Earth Democracy, which is the freedom for all species to evolve within the web of life, and the freedom and responsibility of humans, as members of the Earth family, to recognize, protect, and respect the rights of other species. Earth Democracy is a shift from anthropocentrism to ecocentrism. And since we all depend on the Earth, Earth Democracy translates into human rights to food and water, to freedom from hunger and thirst.

Because the Earth University is located at Navdanya, a biodiversity farm, participants learn to work with living seeds, living soil, and the web of life. Participants include farmers, school children, and people from across the world. Two of our most popular courses are "The A-Z of Organic Farming and Agroecology," and "Gandhi and Globalization."

The Poetry of the Forest

The Earth University is inspired by Rabindranath Tagore, India's national poet and a Nobel Prize laureate.

Tagore started a learning center in Shantiniketan in West Bengal, India, as a forest school, both to take inspiration from nature and to create an Indian cultural renaissance. The school became a university in 1921, growing into one of India's most famous centers of learning.

Today, just as in Tagore's time, we need to turn to nature and the forest for lessons in freedom.

In "The Religion of the Forest," Tagore wrote about the influence that the forest dwellers of ancient India had on classical Indian literature. The forests are sources of water and the storehouses of a biodiversity that can teach us the lessons of democracy—of leaving space for others while drawing sustenance from the common web of life. Tagore saw unity with nature as the highest stage of human evolution.

In his essay "Tapovan" (Forest of Purity), Tagore writes: "Indian civilization has been distinctive in locating its source of regeneration, material and intellectual, in the forest, not the city. India's best ideas have come where man was in communion with trees and rivers and lakes, away from the crowds. The peace of the forest has helped the intellectual evolution of man. The culture of the forest has fueled the culture of Indian society. The culture that has arisen from the forest has been influenced by the diverse

processes of renewal of life, which are always at play in the forest, varying from species to species, from season to season, in sight and sound and smell. The unifying principle of life in diversity, of democratic pluralism, thus became the principle of Indian civilization."

It is this unity in diversity that is the basis of both ecological sustainability and democracy. Diversity without unity becomes the source of conflict and contest. Unity without diversity becomes the ground for external control. This is true of both nature and culture. The forest is a unity in its diversity, and we are united with nature through our relationship with the forest.

In Tagore's writings, the forest was not just the source of knowledge and freedom; it was the source of beauty and joy, of art and aesthetics, of harmony and perfection. It symbolized the universe.

In "The Religion of the Forest," the poet says that our frame of mind "guides our attempts to establish relations with the universe either by conquest or by union, either through the cultivation of power or through that of sympathy."

The forest teaches us union and compassion.

The forest also teaches us enoughness: as a principle of equity, how to enjoy the gifts of nature without exploitation and accumulation. Tagore quotes from the ancient texts written in the forest: "Know all that moves in this moving world as enveloped by God; and find enjoyment through renunciation, not through greed of possession." No species in a forest appropriates the share of another species. Every species sustains itself in cooperation with others.

The end of consumerism and accumulation is the beginning of the joy of living.

The conflict between greed and compassion, conquest and cooperation, violence and harmony that Tagore wrote about continues today. And it is the forest that can show us the way beyond this conflict.

Thinking Like A Mountain by Aldo Leopold

from A Sand County Almanac and Sketches Here and There, 1949

A deep chesty bawl echoes from rimrock to rimrock, rolls down the mountain, and fades into the far blackness of the night. It is an outburst of wild defiant sorrow, and of contempt for all the adversities of the world. Every living thing (and perhaps many a dead one as well) pays heed to that call. To the deer it is a reminder of the way of all flesh, to the pine a forecast of midnight scuffles and of blood upon the snow, to the coyote a promise of gleanings to come, to the cowman a threat of red ink at the bank, to the hunter a challenge of fang against bullet. Yet behind these obvious and immediate hopes and fears there lies a deeper meaning, known only to the mountain itself. Only the mountain has lived long enough to listen objectively to the howl of a wolf.

Those unable to decipher the hidden meaning know nevertheless that it is there, for it is felt in all wolf country, and distinguishes that country from all other land. It tingles in the spine of all who hear wolves by night, or who scan their tracks by day. Even without sight or sound of wolf, it is implicit in a hundred small events: the midnight whinny of a pack horse, the rattle of rolling rocks, the bound of a fleeing deer, the way shadows lie under the spruces. Only the ineducable tyro can fail to sense the presence or absence of wolves, or the fact that mountains have a secret opinion about them.

My own conviction on this score dates from the day I saw a wolf die. We were eating lunch on a high rimrock, at the foot of which a turbulent river elbowed its way. We saw what we thought was a doe fording the torrent, her breast awash in white water. When she climbed the bank toward us and shook out her tail, we realized our error: it was a wolf. A half-dozen others, evidently grown pups, sprang from the willows and all joined in a welcoming melee of wagging tails and playful maulings. What was literally a pile of wolves writhed and tumbled in

the center of an open flat at the foot of our rimrock.

In those days we had never heard of passing up a chance to kill a wolf. In a second we were pumping lead into the pack, but with more excitement than accuracy: how to aim a steep downhill shot is always confusing. When our rifles were empty, the old wolf was down, and a pup was dragging a leg into impassable slide-rocks.

We reached the old wolf in time to watch a fierce green fire dying in her eyes. I realized then, and have known ever since, that there was something new to me in those eyes - something known only to her and to the mountain. I was young then, and full of trigger-itch; I thought that because fewer wolves meant more deer, that no wolves would mean hunters' paradise. But after seeing the green fire die, I sensed that neither the wolf nor the mountain agreed with such a view.

Since then I have lived to see state after state extirpate its wolves. I have watched the face of many a newly wolfless mountain, and seen the south-facing slopes wrinkle with a maze of new deer trails. I have seen every edible bush and seedling browsed, first to anaemic desuetude, and then to death. I have seen every edible tree defoliated to the height of a saddlehorn. Such a mountain looks as if someone had given God a new pruning shears, and forbidden Him all other exercise. In the end the starved bones of the hoped-for deer herd, dead of its own too-much, bleach with the bones of the dead sage, or molder under the high-lined junipers.

I now suspect that just as a deer herd lives in mortal fear of its wolves, so does a mountain live in mortal fear of its deer. And perhaps with better cause, for while a buck pulled down by wolves can be replaced in two or three years, a range pulled down by too many deer may fail of replacement in as many decades. So also with cows. The cowman who cleans his range of wolves does not realize that he is taking over the wolf's job of trimming the herd to fit the range. He has not learned to think like a mountain. Hence we have dustbowls, and rivers washing the future into the sea.

We all strive for safety, prosperity, comfort, long life, and dullness. The deer strives with his supple legs, the cowman with trap and poison, the statesman with pen, the most of us with machines, votes, and dollars, but it all comes to the same thing: peace in our time. A measure of success in this is all well enough, and perhaps is a requisite to objective thinking, but too much safety seems to yield only danger in the long run. Perhaps this is behind Thoreau's dictum: In wildness is the salvation of the world. Perhaps this is the hidden meaning in the howl of the wolf, long known among mountains, but seldom perceived among men.

The Land Ethic by Aldo Leopold

from A Sand County Almanac and Sketches Here and There, 1949

When god-like Odysseus returned from the wars in Troy, he hanged all on one rope a dozen slave-girls of his household whom he suspected of misbehavior during his absence. This hanging involved no question of propriety. The girls were property. The disposal of property was then, as now, a matter of expediency, not of right and wrong.

Concepts of right and wrong were not lacking from Odysseus' Greece: witness the fidelity of his wife through long years before at last his black-prowed galleys clove the wine-dark seas for home. The ethical structure of that day covered wives, but had not yet been extended to human chattels. During the three thousand years which have since elapsed, ethical criteria have been extended to many fields of conduct, with corresponding shrinkages in those judged by expediency only.

Ethical Sequence

This extension of ethics, so far studied only by philosophers, is actually a process in ecological evolution. Its sequences may be described in ecological as well as in philosophical terms. An ethic, ecologically, is a limitation on freedom of action in the struggle for existence. An ethic, philosophically, is a differentiation of social from anti-social conduct. These are two definitions of one thing. The thing has its origin

in the tendency of interdependent individuals or groups to evolve modes of co-operation. The ecologist calls these symbioses. Politics and economics are advanced symbioses in which the original free-for-all competition has been replaced, in part, by co-operative mechanisms with an ethical content.

The complexity of co-operative mechanisms has increased with population density, and with the efficiency of tools. It was simpler, for example, to define the anti-social uses of sticks and stones in the days of the mastodons than of bullets and billboards in the age of motors.

The first ethics dealt with the relation between individuals; the Mosaic Decalogue is an example. Later accretions dealt with the relation between the individual and society. The Golden Rule tries to integrate the individual to society; democracy to integrate social organization to the individual.

There is as yet no ethic dealing with man's relation to land and to the animals and plants which grow upon it. Land, like Odysseus' slave-girls, is still property. The land relation is still strictly economic, entailing privileges but not obligations.

The extension of ethics to this third element in human environment is, if I read the evidence correctly, an evolutionary possibility and an ecological necessity. It is the third step in a sequence. The first two have already been taken. Individual thinkers since the days of Ezekiel and Isaiah , have asserted that the despoliation of land is not only inexpedient but wrong. Society, however, has not yet affirmed their belief. I regard the present conservation movement as the embryo of such an affirmation.

An ethic may be regarded as a mode of guidance for meeting ecological situations so new or intricate, or involving such deferred reactions, that the path of social expediency is not discernible to the average individual. Animal instincts are modes of guidance for the individual in meeting such situations. Ethics are possibly a kind of community instinct in-the-making.

The Community Concept

All ethics so far evolved rest upon a single premise: that the individual is a member of a community of interdependent parts. His instincts prompt him to compete for his place in that community, but his ethics prompt him also to co-operate (perhaps in order that there may be a place to compete for).

The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land.

This sounds simple: do we not already sing our love for and obligation to the land of the free and the home of the brave? Yes, but just what and whom do we love? Certainly not the soil, which we are sending helter-skelter downriver. Certainly not the waters, which we assume have no function except to turn turbines, float barges, and carry off sewage. Certainly not the plants, of which we exterminate whole communities without batting an eye. Certainly not the animals, of which we have already extirpated many of the largest and most beautiful species. A land ethic of course cannot prevent the alteration, management, and use of these 'resources,' but it does affirm their right to continued existence, and, at least in spots, their continued existence in a natural state.

In short, a land ethic changes the role of Homo sapiens from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community as such.

In human history, we have learned (I hope) that the conqueror role is eventually self-defeating. Why? Because it is implicit in such a role that the conqueror knows, ex cathedra, just what makes the community clock tick, and just what and who is valuable, and what and who is worthless, in community life. It always turns out that he knows neither, and this is why his conquests eventually defeat themselves.

In the biotic community, a parallel situation exists. Abraham knew exactly what the land was for: it was to drip milk and honey into Abraham's mouth. At the present moment, the assurance with which we regard this assumption is inverse to the degree of our education.

The ordinary citizen today assumes that science knows what makes the community clock tick; the scientist is equally sure that he does not. He knows that the biotic mechanism is so

complex that its workings may never be fully understood.

That man is, in fact, only a member of a biotic team is shown by an ecological interpretation of history. Many historical events, hitherto explained solely in terms of human enterprise, were actually biotic interactions between people and land. The characteristics of the land determined the facts quite as potently as the characteristics of the men who lived on it.

Consider, for example, the settlement of the Mississippi valley. In the years following the Revolution, three groups were contending for its control: the native Indian, the French and English traders, and the American settlers. Historians wonder what would have happened if the English at Detroit had thrown a little more weight into the Indian side of those tipsy scales which decided the outcome of the colonial migration into the cane-lands of Kentucky. It is time now to ponder the fact that the cane-lands, when subjected to the particular mixture of forces represented by the cow, plow, fire, and axe of the pioneer, became bluegrass. What if the plant succession inherent in this dark and bloody ground had, under the impact of these forces, given us some worthless sedge, shrub, or weed? Would Boone and Kenton have held out? Would there have been any overflow into Ohio, Indiana, Illinois, and Missouri? Any Louisiana Purchase? Any transcontinental union of new states? Any Civil War?

Kentucky was one sentence in the drama of history. We are commonly told what the human actors in this drama tried to do, but we are seldom told that their success, or the lack of it, hung in large degree on the reaction of particular soils to the impact of the particular forces exerted by their occupancy. In the case of Kentucky, we do not even know where the bluegrass came from—whether it is a native species, or a stowaway from Europe.

Contrast the cane-lands with what hindsight tells us about the Southwest, where the pioneers were equally brave, resourceful, and persevering. The impact of occupancy here brought no bluegrass, or other plant fitted to withstand the bumps and buffetings of hard use. This region, when grazed by livestock, reverted through a series of more and more worthless grasses, shrubs, and weeds to a condition of unstable equilibrium. Each recession of plant types bred erosion; each increment to erosion bred a further recession of plants. The result today is a progressive and mutual deterioration, not only of plants and soils, but of the animal community subsisting thereon. The early settlers did not expect this: on the ciénegas of New Mexico some even cut ditches to hasten it. So subtle has been its progress that few residents of the region are aware of it. It is quite invisible to the tourist who finds this wrecked landscape colorful and charming (as indeed it is, but it bears scant resemblance to what it was in 1848).

This same landscape was 'developed' once before, but with quite different results. The Pueblo Indians settled the Southwest in pre-Columbian times, but they happened not to be equipped with range livestock. Their civilization expired, but not because their land expired.

In India, regions devoid of any sod-forming grass have been settled, apparently without wrecking the land, by the simple expedient of carrying the grass to the cow, rather than vice versa. (Was this the result of some deep wisdom, or was it just good luck? I do not know.)

In short, the plant succession steered the course of history; the pioneer simply demonstrated, for good or ill, what successions inhered in the land. Is history taught in this spirit? It will be, once the concept of land as a community really penetrates our intellectual life.

The Ecological Conscience

Conservation is a state of harmony between men and land. Despite nearly a century of propaganda, conservation still proceeds at a snail's pace; progress still consists largely of letterhead pieties and convention oratory. On the back forty we still slip two steps backward for each forward stride.

The usual answer to this dilemma is 'more conservation education.' No one will debate this, but is it certain that only the volume of education needs stepping up? Is something lacking in the content as well?

It is difficult to give a fair summary of its content in brief form, but, as I understand it, the content is substantially this: obey the law, vote right, join some organizations, and practice what

conservation is profitable on your own land; the government will do the rest.

Is not this formula too easy to accomplish anything worth-while? It defines no right or wrong, assigns no obligation, calls for no sacrifice, implies no change in the current philosophy of values. In respect of land-use, it urges only enlightened self-interest. Just how far will such education take us? An example will perhaps yield a partial answer.

By 1930 it had become clear to all except the ecologically blind that southwestern Wisconsin's topsoil was slipping seaward. In 1933 the farmers were told that if they would adopt certain remedial practices for five years, the public would donate CCC labor to install them, plus the necessary machinery and materials. The offer was widely accepted, but the practices were widely forgotten when the five-year contract period was up. The farmers continued only those practices that yielded an immediate and visible economic gain for themselves.

This led to the idea that maybe farmers would learn more quickly if they themselves wrote the rules. Accordingly the Wisconsin Legislature in 1937 passed the Soil Conservation District Law. This said to farmers, in effect: We, the public, will furnish you free technical service and loan you specialized machinery; if you will write your own rules for land-use. Each county may write its own rules, and these will have the force of law. Nearly all the counties promptly organized to accept the proffered help, but after a decade of operation, no county has yet written a single rule. There has been visible progress in such practices as strip-cropping, pasture renovation, and soil liming, but none in fencing woodlots against grazing, and none in excluding plow and cow from steep slopes. The farmers, in short, have selected those remedial practices which were profitable anyhow, and ignored those which were profitable to the community, but not clearly profitable to themselves.

When one asks why no rules have been written, one is told that the community is not yet ready to support them; education must precede rules. But the education actually in progress makes no mention of obligations to land over and above those dictated by self-interest. The net result is that we have more education but less soil, fewer healthy woods, and as many floods as in 1937.

The puzzling aspect of such situations is that the existence of obligations over and above self-interest is taken for granted in such rural community enterprises as the betterment of roads, schools, churches, and baseball teams. Their existence is not taken for granted, nor as yet seriously discussed, in bettering the behavior of the water that falls on the land, or in the preserving of the beauty or diversity of the farm landscape. Land-use ethics are still governed wholly by economic self-interest, just as social ethics were a century ago.

To sum up: we asked the farmer to do what he conveniently could to save his soil, and he has done just that, and only that. The farmer who clears the woods off a 75 per cent slope, turns his cows into the clearing, and dumps its rainfall, rocks, and soil into the community creek, is still (if otherwise decent) a respected member of society. If he puts lime on his fields and plants his crops on contour, he is still entitled to all the privileges and emoluments of his Soil Conservation District. The District is a beautiful piece of social machinery, but it is coughing along on two cylinders because we have been too timid, and too anxious for quick success, to tell the farmer the true magnitude of his obligations. Obligations have no meaning without conscience, and the problem we face is the extension of the social conscience from people to land.

No important change in ethics was ever accomplished without an internal change in our intellectual emphasis, loyalties, affections, and convictions. The proof that conservation has not yet touched these foundations of conduct lies in the fact that philosophy and religion have not yet heard of it. In our attempt to make conservation easy, we have made it trivial.

Substitutes for a Land Ethic

When the logic of history hungers for bread and we hand out a stone, we are at pains to explain how much the stone resembles bread. I now describe some of the stones which serve in lieu of a land ethic.

One basic weakness in a conservation system based wholly on economic motives is that most members of the land community have no economic value. Wildflowers and songbirds are examples. Of the 22,000 higher plants and animals native to Wisconsin, it is doubtful whether more than 5 per cent can be sold, fed, eaten, or otherwise put to economic use. Yet these creatures are members of the biotic community, and if (as I believe) its stability depends on its integrity, they are entitled to continuance.

When one of these non-economic categories is threatened, and if we happen to love it, we invent subterfuges to give it economic importance. At the beginning of the century songbirds were supposed to be disappearing. Ornithologists jumped to the rescue with some distinctly shaky evidence to the effect that insects would eat us up if birds failed to control them. The evidence had to be economic in order to be valid.

It is painful to read these circumlocutions today. We have no land ethic yet, but we have at least drawn nearer the point of admitting that birds should continue as a matter of biotic right, regardless of the presence or absence of economic advantage to us.

A parallel situation exists in respect of predatory mammals, raptorial birds, and fish-eating birds. Time was when biologists somewhat overworked the evidence that these creatures preserve the health of game by killing weaklings, or that they control rodents for the farmer, or that they prey only on' worthless' species. Here again, the evidence had to be economic in order to be valid. It is only in recent years that we hear the more honest argument that predators are members of the community, and that no special interest has the right to exterminate them for the sake of a benefit, real or fancied, to itself. Unfortunately this enlightened view is still in the talk stage. In the field the extermination of predators goes merrily on: witness the impending erasure of the timber wolf by fiat of Congress, the Conservation Bureaus, and many state legislatures.

Some species of trees have been 'read out of the party' by economics-minded foresters because they grow too slowly, or have too low a sale value to pay as timber crops: white cedar, tamarack, cypress, beech, and hemlock are examples. In Europe, where forestry is ecologically more advanced, the non-commercial tree species are recognized as members of the native forest community, to be preserved as such, within reason. Moreover some (like beech) have been found to have a valuable function in building up soil fertility. The interdependence of the forest and its constituent tree species, ground flora, and fauna is taken for granted.

Lack of economic value is sometimes a character not only of species or groups, but of entire biotic communities: marshes, bogs, dunes, and 'deserts' are examples. Our formula in such cases is to relegate their conservation to government as refuges, monuments, or parks. The difficulty is that these communities are usually interspersed with more valuable private lands; the government cannot possibly own or control such scattered parcels. The net effect is that we have relegated some of them to ultimate extinction over large areas. If the private owner were ecologically minded, he would be proud to be the custodian of a reasonable proportion of such areas, which add diversity and beauty to his farm and to his community.

In some instances, the assumed lack of profit in these waste' areas has proved to be wrong, but only after most of them had been done away with. The present scramble to reflood muskrat marshes is a case in point.

There is a clear tendency in American conservation to relegate to government all necessary jobs that private landowners fail to perform. Government ownership, operation, subsidy, or regulation is now widely prevalent in forestry, range management, soil and watershed management, park and wilderness conservation, fisheries management, and migratory bird management, with more to come. Most of this growth in governmental conservation is proper and logical, some of it is inevitable. That I imply no disapproval of it is implicit in the fact that I have spent most of my life working for it. Nevertheless the question arises: What is the ultimate magnitude of the enterprise? Will the tax base carry its eventual ramifications? At what point will governmental conservation, like the mastodon, become handicapped by its own

dimensions? The answer, if there is any, seems to be in a land ethic, or some other force which assigns more obligation to the private landowner.

Industrial landowners and users, especially lumbermen and stockmen, are inclined to wail long and loudly about the extension of government ownership and regulation to land, but (with notable exceptions) they show little disposition to develop the only visible alternative: the voluntary practice of conservation on their own lands.

When the private landowner is asked to perform some unprofitable act for the good of the community, he today assents only with outstretched palm. If the act costs him cash this is fair and proper, but when it costs only forethought, open-mindedness, or time, the issue is at least debatable. The overwhelming growth of land-use subsidies in recent years must be ascribed, in large part, to the government's own agencies for conservation education: the land bureaus, the agricultural colleges, and the extension services. As far as I can detect, no ethical obligation toward land is taught in these institutions.

To sum up: a system of conservation based solely on economic self-interest is hopelessly lopsided. It tends to ignore, and thus eventually to eliminate, many elements in the land community that lack commercial value, but that are (as far as we know) essential to its healthy functioning. It assumes, falsely, I think, that the economic parts of the biotic clock will function without the uneconomic parts. It tends to relegate to government many functions eventually too large, too complex, or too widely dispersed to be performed by government.

An ethical obligation on the part of the private owner is the only visible remedy for these situations.

The Land Pyramid

An ethic to supplement and guide the economic relation to land presupposes the existence of some mental image of land as a biotic mechanism. We can be ethical only in relation to something we can see, feel, understand, love, or otherwise have faith in.

The image commonly employed in conservation education is 'the balance of nature.' For reasons too lengthy to detail here, this figure of speech fails to describe accurately what little we know about the land mechanism. A much truer image is the one employed in ecology: the biotic pyramid. I shall first sketch the pyramid as a symbol of land, and later develop some of its implications in terms of land-use.

Plants absorb energy from the sun. This energy flows through a circuit called the biota, which may be represented by a pyramid consisting of layers. The bottom layer is the soil. A plant layer rests on the soil, an insect layer on the plants, a bird and rodent layer on the insects, and so on up through various animal groups to the apex layer, which consists of the larger carnivores.

The species of a layer are alike not in where they came from, or in what they look like, but rather in what they eat. Each successive layer depends on those below it for food and often for other services, and each in turn furnishes food and services to those above. Proceeding upward, each successive layer decreases in numerical abundance. Thus, for every carnivore there are hundreds of his prey, thousands of their prey, millions of insects, uncountable plants. The pyramidal form of the system reflects this numerical progression from apex to base. Man shares an intermediate layer with the bears, raccoons, and squirrels which eat both meat and vegetables.

The lines of dependency for food and other services are called food chains. Thus soil-oak-deer-Indian is a chain that has now been largely converted to soil-corn-cow-farmer. Each species, including ourselves, is a link in many chains. The deer eats a hundred plants other than oak, and the cow a hundred plants other than corn. Both, then, are links in a hundred chains. The pyramid is a tangle of chains so complex as to seem disorderly, yet the stability of the system proves it to be a highly organized structure. Its functioning depends on the co-operation and competition of its diverse parts.

In the beginning, the pyramid of life was low and squat; the food chains short and simple. Evolution has added layer after layer, link after link. Man is one of thousands of accretions to the height and complexity of the pyramid. Science has given us many doubts, but it has given us at

least one certainty: the trend of evolution is to elaborate and diversify the biota.

Land, then, is not merely soil; it is a fountain of energy flowing through a circuit of soils, plants, and animals. Food chains are the living channels which conduct energy upward; death and decay return it to the soil. The circuit is not closed; some energy is dissipated in decay, some is added by absorption from the air, some is stored in soils, peats, and long-lived forests; but it is a sustained circuit, like a slowly augmented revolving fund of life. There is always a net loss by downhill wash, but this is normally small and offset by the decay of rocks. It is deposited in the ocean and, in the course of geological time, raised to form new lands and new pyramids.

The velocity and character of the upward flow of energy depend on the complex structure of the plant and animal community, much as the upward flow of sap in a tree depends on its complex cellular organization. Without this complexity, normal circulation would presumably not occur. Structure means the characteristic numbers, as well as the characteristic kinds and functions, of the component species. This interdependence between the complex structure of the land and its smooth functioning as an energy unit is one of its basic attributes.

When a change occurs in one part of the circuit, many other parts must adjust themselves to it. Change does not necessarily obstruct or divert the flow of energy; evolution is a long series of self-induced changes, the net result of which has been to elaborate the flow mechanism and to lengthen the circuit. Evolutionary changes, however, are usually slow and local. Man's invention of tools has enabled him to make changes of unprecedented violence, rapidity, and scope.

One change is in the composition of floras and faunas. The larger predators are lopped off the apex of the pyramid; food chains, for the first time in history, become shorter rather than longer. Domesticated species from other lands are substituted for wild ones, and wild ones are moved to new habitats. In this world-wide pooling of faunas and floras, some species get out of bounds as pests and diseases, others are extinguished. Such effects are seldom intended or foreseen; they represent unpredicted and often untraceable readjustments in the structure. Agricultural science is largely a race between the emergence of new pests and the emergence of new techniques for their control.

Another change touches the flow of energy through plants and animals and its return to the soil. Fertility is the ability of soil to receive, store, and release energy. Agriculture, by overdrafts on the soil, or by too radical a substitution of domestic for native species in the superstructure, may derange the channels of flow or deplete storage. Soils depleted of their storage, or of the organic matter which anchors it, wash away faster than they form. This is erosion.

Waters, like soil, are part of the energy circuit. Industry, by polluting waters or obstructing them with dams, may exclude the plants and animals necessary to keep energy in circulation.

Transportation brings about another basic change: the plants or animals grown in one region are now consumed and returned to the soil in another. Transportation taps the energy stored in rocks, and in the air, and uses it elsewhere; thus we fertilize the garden with nitrogen gleaned by the guano birds from the fishes of seas on the other side of the Equator. Thus the formerly localized and self-contained circuits are pooled on a world-wide scale.

The process of altering the pyramid for human occupation releases stored energy, and this often gives rise, during the pioneering period, to a deceptive exuberance of plant and animal life,
both wild and tame. These releases of biotic capital tend to becloud or postpone the penalties of violence.

This thumbnail sketch of land as an energy circuit conveys three basic ideas:
(1) That land is not merely soil.
(2) That the native plants and animals kept the energy circuit open; others may or may not.
(3) That man-made changes are of a different order than evolutionary changes, and have effects more comprehensive than is intended or foreseen.

These ideas, collectively, raise two basic

issues: Can the land adjust itself to the new order?

Can the desired alterations be accomplished with less violence?

Biotas seem to differ in their capacity to sustain violent conversion. Western Europe, for example, carries a far different pyramid than Caesar found there. Some large animals are lost; swampy forests have become meadows or plowland; many new plants and animals are introduced, some of which escape as pests; the remaining natives are greatly changed in distribution and abundance. Yet the soil is still there and, with the help of imported nutrients, still fertile; the waters flow normally; the new structure seems to function and to persist. There is no visible stoppage or derangement of the circuit.

Western Europe, then, has a resistant biota. Its inner processes are tough, elastic, resistant to strain. No matter how violent the alterations, the pyramid, so far, has developed some new modus vivendi which preserves its habitability for man, and for most of the other natives.

Japan seems to present another instance of radical conversion without disorganization.

Most other civilized regions, and some as yet barely touched by civilization, display various stages of disorganization, varying from initial symptoms to advanced wastage. In Asia Minor and North Africa diagnosis is confused by climatic changes, which may have been either the cause or the effect of advanced wastage. In the United States the degree of disorganization varies locally; it is worst in the Southwest, the Ozarks, and parts of the South, and least in New England and the Northwest. Better land-uses may still arrest it in the less advanced regions. In parts of Mexico, South America, South Africa, and Australia a violent and accelerating wastage is in progress, but I cannot assess the prospects.

This almost world-wide display of disorganization in the land seems to be similar to disease in an animal, except that it never culminates in complete disorganization or death. The land recovers, but at some reduced level of complexity, and with a reduced carrying capacity for people, plants, and animals. Many biotas currently regarded as 'lands of opportunity' are in fact already subsisting on exploitative agriculture, i.e. they have already exceeded their sustained carrying capacity. Most of South America is overpopulated in this sense.

In arid regions we attempt to offset the process of wastage by reclamation, but it is only too evident that the prospective longevity of reclamation projects is often short. In our own West, the best of them may not last a century.

The combined evidence of history and ecology seems to support one general deduction: the less violent the manmade changes, the greater the probability of successful readjustment in the pyramid. Violence, in turn, varies with human population density; a dense population requires a more violent conversion. In this respect, North America has a better chance for permanence than Europe, if she can contrive to limit her density.

This deduction runs counter to our current philosophy, which assumes that because a small increase in density enriched human life, that an indefinite increase will enrich it indefinitely.

Ecology knows of no density relationship that holds for indefinitely wide limits. All gains from density are subject to a law of diminishing returns.

Whatever may be the equation for men and land, it is improbable that we as yet know all its terms. Recent discoveries in mineral and vitamin nutrition reveal unsuspected dependencies in the up-circuit: incredibly minute quantities of certain substances determine the value of soils to plants, of plants to animals. What of the down-circuit? What of the vanishing species, the preservation of which we now regard as an esthetic luxury? They helped build the soil; in what unsuspected ways may they be essential to its maintenance? Professor Weaver proposes that we use prairie flowers to reflocculate the wasting soils of the dust bowl; who knows for what purpose cranes and condors, otters and grizzlies may some day be used?

Land Health and the A-B Cleavage

A land ethic, then, reflects the existence of an ecological conscience, and this in turn reflects a conviction of individual responsibility for the health of the land. Health is the capacity of the

land for self-renewal. Conservation is our effort to understand and preserve this capacity.

Conservationists are notorious for their dissensions. Superficially these seem to add up to mere confusion, but a more careful scrutiny reveals a single plane of cleavage common to many specialized fields. In each field one group (A) regards the land as soil, and its function as commodity-production; another group (B) regards the land as a biota, and its function as something broader. How much broader is admittedly in a state of doubt and confusion.

In my own field, forestry, group A is quite content to grow trees like cabbages, with cellulose as the basic forest commodity. It feels no inhibition against violence; its ideology is agronomic. Group B, on the other hand, sees forestry as fundamentally different from agronomy because it employs natural species, and manages a natural environment rather than creating an artificial one. Group B prefers natural reproduction on principle. It worries on biotic as well as economic grounds about the loss of species like chestnut, and the threatened loss of the white pines. It worries about a whole series of secondary forest functions: wildlife, recreation, watersheds, wilderness areas. To my mind, Group B feels the stirrings of an ecological conscience.

In the wildlife field, a parallel cleavage exists. For Group A the basic commodities are sport and meat; the yardsticks of production are ciphers of take in pheasants and trout. Artificial propagation is acceptable as a permanent as well as a temporary recourse—if its unit costs permit. Group B, on the other hand, worries about a whole series of biotic side-issues. What is the cost in predators of producing a game crop? Should we have further recourse to exotics? How can management restore the shrinking species, like prairie grouse, already hopeless as shootable game? How can management restore the threatened rarities, like trumpeter swan and whooping crane? Can management principles be extended to wildflowers? Here again it is clear to me that we have the same A-B cleavage as in forestry.

In the larger field of agriculture I am less competent to speak, but there seem to be somewhat parallel cleavages. Scientific agriculture was actively developing before ecology was born, hence a slower penetration of ecological concepts might be expected. Moreover the farmer, by the very nature of his techniques, must modify the biota more radically than the forester or the wildlife manager. Nevertheless, there are many discontents in agriculture which seem to add up to a new vision of 'biotic farming.'

Perhaps the most important of these is the new evidence that poundage or tonnage is no measure of the food-value of farm crops; the products of fertile soil may be qualitatively as well as quantitatively superior. We can bolster poundage from depleted soils by pouring on imported fertility, but we are not necessarily bolstering food-value. The possible ultimate ramifications of this idea are so immense that I must leave their exposition to abler pens.

The discontent that labels itself 'organic farming,' while bearing some of the earmarks of a cult, is nevertheless biotic in its direction, particularly in its insistence on the importance of soil flora and fauna.

The ecological fundamentals of agriculture are just as poorly known to the public as in other fields of land-use. For example, few educated people realize that the marvelous advances in technique made during recent decades are improvements in the pump, rather than the well. Acre for acre, they have barely sufficed to offset the sinking level of fertility.

In all of these cleavages, we see repeated the same basic paradoxes: man the conqueror versus man the biotic citizen; science the sharpener of his sword versus science the searchlight on his universe; land the slave and servant versus land the collective organism. Robinson's injunction to Tristram may well be applied, at this juncture, to Homo sapiens as a species in geological time:

Whether you will or not
You are a King, Tristram, for you are one
Of the time-tested few that leave the world,
When they are gone, not the same place it was.
Mark what you leave.

The Outlook

It is inconceivable to me that an ethical relation to land can exist without love, respect,

and admiration for land, and a high regard for its value. By value, I of course mean something far broader than mere economic value; I mean value in the philosophical sense.

Perhaps the most serious obstacle impeding the evolution of a land ethic is the fact that our educational and economic system is headed away from, rather than toward, an intense consciousness of land. Your true modern is separated from the land by many middlemen, and by innumerable physical gadgets. He has no vital relation to it; to him it is the space between cities on which crops grow. Turn him loose for a day on the land, and if the spot does not happen to be a golf links or a 'scenic' area, he is bored stiff. If crops could be raised by hydroponics instead of farming, it would suit him very well. Synthetic substitutes for wood, leather, wool, and other natural land products suit him better than the originals. In short, land is something he has 'outgrown.'

Almost equally serious as an obstacle to a land ethic is the attitude of the farmer for whom the land is still an adversary, or a taskmaster that keeps him in slavery. Theoretically, the mechanization of farming ought to cut the farmer's chains, but whether it really does is debatable.

One of the requisites for an ecological comprehension of land is an understanding of ecology, and this is by no means co-extensive with 'education'; in fact, much higher education seems deliberately to avoid ecological concepts. An understanding of ecology does not necessarily originate in courses bearing ecological labels; it is quite as likely to be labeled geography, botany, agronomy, history, or economics. This is as it should be, but whatever the label, ecological training is scarce.

The case for a land ethic would appear hopeless but for the minority which is in obvious revolt against these 'modern' trends.

The 'key-log' which must be moved to release the evolutionary process for an ethic is simply this: quit thinking about decent land-use as solely an economic problem. Examine each question in terms of what is ethically and esthetically right, as well as what is economically expedient. A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.

It of course goes without saying that economic feasibility limits the tether of what can or cannot be done for land. It always has and it always will. The fallacy the economic determinists have tied around our collective neck, and which we now need to cast off, is the belief that economics determines all land-use. This is simply not true. An innumerable host of actions and attitudes, comprising perhaps the bulk of all land relations, is determined by the land-users' tastes and predilections, rather than by his purse. The bulk of all land relations hinges on investments of time, forethought, skill, and faith rather than on investments of cash. As a land-user thinketh, so is he.

I have purposely presented the land ethic as a product of social evolution because nothing so important as an ethic is ever 'written.' Only the most superficial student of history supposes that Moses 'wrote' the Decalogue; it evolved in the minds of a thinking community, and Moses wrote a tentative summary of it for a 'seminar.' I say tentative because evolution never stops.

The evolution of a land ethic is an intellectual as well as emotional process. Conservation is paved with good intentions which prove to be futile, or even dangerous, because they are devoid of critical understanding either of the land, or of economic land-use. I think it is a truism that as the ethical frontier advances from the individual to the community, its intellectual content increases.

The mechanism of operation is the same for any ethic: social approbation for right actions: social disapproval for wrong actions.

By and large, our present problem is one of attitudes and implements. We are remodeling the Alhambra with a steam-shovel, and we are proud of our yardage. We shall hardly relinquish the shovel, which after all has many good points, but we are in need of gentler and more objective criteria for its successful use.

Conservation Refugees by Mark Dowie

from Orion Magazine, written as a teaser for his 2009 book by the same title

A LOW FOG ENVELOPS THE STEEP and remote valleys of southwestern Uganda most mornings, as birds found only in this small corner of the continent rise in chorus and the great apes drink from clear streams. Days in the dense montane forest are quiet and steamy. Nights are an exaltation of insects and primate howling. For thousands of years the Batwa people thrived in this soundscape, in such close harmony with the forest that early-twentieth-century wildlife biologists who studied the flora and fauna of the region barely noticed their existence. They were, as one naturalist noted, "part of the fauna."

In the 1930s, Ugandan leaders were persuaded by international conservationists that this area was threatened by loggers, miners, and other extractive interests. In response, three forest reserves were created — the Mgahinga, the Echuya, and the Bwindi — all of which overlapped with the Batwa's ancestral territory. For sixty years these reserves simply existed on paper, which kept them off-limits to extractors. And the Batwa stayed on, living as they had for generations, in reciprocity with the diverse biota that first drew conservationists to the region.

However, when the reserves were formally designated as national parks in 1991 and a bureaucracy was created and funded by the World Bank's Global Environment Facility to manage them, a rumor was in circulation that the Batwa were hunting and eating silverback gorillas, which by that time were widely recognized as a threatened species and also, increasingly, as a featured attraction for ecotourists from Europe and America. Gorillas were being disturbed and even poached, the Batwa admitted, but by Bahutu, Batutsi, Bantu, and other tribes who invaded the forest from outside villages. The Batwa, who felt a strong kinship with the great apes, adamantly denied killing them. Nonetheless, under pressure from traditional Western conservationists, who had come to believe that wilderness and human community were incompatible, the Batwa were forcibly expelled from their homeland.

These forests are so dense that the Batwa lost perspective when they first came out. Some even stepped in front of moving vehicles. Now they are living in shabby squatter camps on the perimeter of the parks, without running water or sanitation. In one more generation their forest-based culture — songs, rituals, traditions, and stories — will be gone.

It's no secret that millions of native peoples around the world have been pushed off their land to make room for big oil, big metal, big timber, and big agriculture. But few people realize that the same thing has happened for a much nobler cause: land and wildlife conservation. Today the list of culture-wrecking institutions put forth by tribal leaders on almost every continent includes not only Shell, Texaco, Freeport, and Bechtel, but also more surprising names like Conservation International (CI), The Nature Conservancy (TNC), the World Wildlife Fund (WWF), and the Wildlife Conservation Society (WCS). Even the more culturally sensitive World Conservation Union (IUCN) might get a mention.

In early 2004 a United Nations meeting was convened in New York for the ninth year in a row to push for passage of a resolution protecting the territorial and human rights of indigenous peoples. The UN draft declaration states: "Indigenous peoples shall not be forcibly removed from their lands or territories. No relocation shall take place without the free and informed consent of the indigenous peoples concerned and after agreement on just and fair compensation and, where possible, with the option to return." During the meeting an indigenous delegate who did not identify herself rose to state that while extractive industries were still a serious threat to their welfare and cultural integrity, their new and biggest enemy was "conservation."

Later that spring, at a Vancouver, British Columbia, meeting of the International Forum on Indigenous Mapping, all two hundred delegates signed a declaration stating that the "activities of conservation organizations now represent the single biggest threat to the integrity

of indigenous lands." These rhetorical jabs have shaken the international conservation community, as have a subsequent spate of critical articles and studies, two of them conducted by the Ford Foundation, calling big conservation to task for its historical mistreatment of indigenous peoples.

"We are enemies of conservation," declared Maasai leader Martin Saning'o, standing before a session of the November 2004 World Conservation Congress sponsored by IUCN in Bangkok, Thailand. The nomadic Maasai, who have over the past thirty years lost most of their grazing range to conservation projects throughout eastern Africa, hadn't always felt that way. In fact, Saning'o reminded his audience, "…we were the original conservationists." The room was hushed as he quietly explained how pastoral and nomadic cattlemen have traditionally protected their range: "Our ways of farming pollinated diverse seed species and maintained corridors between ecosystems." Then he tried to fathom the strange version of land conservation that has impoverished his people, more than one hundred thousand of whom have been displaced from southern Kenya and the Serengeti Plains of Tanzania. Like the Batwa, the Maasai have not been fairly compensated. Their culture is dissolving and they live in poverty.

"We don't want to be like you," Saning'o told a room of shocked white faces. "We want you to be like us. We are here to change your minds. You cannot accomplish conservation without us."

Although he might not have realized it, Saning'o was speaking for a growing worldwide movement of indigenous peoples who think of themselves as conservation refugees. Not to be confused with ecological refugees — people forced to abandon their homelands as a result of unbearable heat, drought, desertification, flooding, disease, or other consequences of climate chaos — conservation refugees are removed from their lands involuntarily, either forcibly or through a variety of less coercive measures. The gentler, more benign methods are sometimes called "soft eviction" or "voluntary resettlement," though the latter is contestable. Soft or hard, the main complaint heard in the makeshift villages bordering parks and at meetings like the World Conservation Congress in Bangkok is that relocation often occurs with the tacit approval or benign neglect of one of the five big international nongovernmental conservation organizations, or as they have been nicknamed by indigenous leaders, the BINGOs. Indigenous peoples are often left out of the process entirely.

Curious about this brand of conservation that puts the rights of nature before the rights of people, I set out last autumn to meet the issue face to face. I visited with tribal members on three continents who were grappling with the consequences of Western conservation and found an alarming similarity among the stories I heard.

KHON NOI, MATRIARCH OF A REMOTE mountain village, huddles next to an open-pit stove in the loose, brightly colored clothes that identify her as Karen, the most populous of six tribes found in the lush, mountainous reaches of far northern Thailand. Her village of sixty-five families has been in the same wide valley for over two hundred years. She chews betel, spitting its bright red juice into the fire, and speaks softly through black teeth. She tells me I can use her name, as long as I don't identify her village.

"The government has no idea who I am," she says. "The only person in the village they know by name is the 'headman' they appointed to represent us in government negotiations. They were here last week, in military uniforms, to tell us we could no longer practice rotational agriculture in this valley. If they knew that someone here was saying bad things about them they would come back again and move us out."

In a recent outburst of environmental enthusiasm stimulated by generous financial offerings from the Global Environment Facility, the Thai government has been creating national parks as fast as the Royal Forest Department can map them. Ten years ago there was barely a park to be found in Thailand, and because those few that existed were unmarked "paper parks," few Thais even knew they were there. Now there are 114 land parks and 24 marine parks on the map. Almost twenty-five thousand square kilometers, most of which are occupied by hill and fishing

tribes, are now managed by the forest department as protected areas.

"Men in uniform just appeared one day, out of nowhere, showing their guns," Kohn Noi recalls, "and telling us that we were now living in a national park. That was the first we knew of it. Our own guns were confiscated . . . no more hunting, no more trapping, no more snaring, and no more "slash and burn." That's what they call our agriculture. We call it crop rotation and we've been doing it in this valley for over two hundred years. Soon we will be forced to sell rice to pay for greens and legumes we are no longer allowed to grow here. Hunting we can live without, as we raise chickens, pigs, and buffalo. But rotational farming is our way of life."

A week before our conversation, and a short flight south of Noi's village, six thousand conservationists were attending the World Conservation Congress in Bangkok. At that conference and elsewhere, big conservation has denied that they are party to the evictions while generating reams of promotional material about their affection for, and close relationships with, indigenous peoples. "We recognize that indigenous people have perhaps the deepest understanding of the Earth's living resources," says Conservation International chairman and CEO Peter Seligman, adding that, "we firmly believe that indigenous people must have ownership, control and title of their lands." Such messages are carefully projected toward major funders of conservation, which in response to the aforementioned Ford Foundation reports and other press have become increasingly sensitive to indigenous peoples and their struggles for cultural survival.

Financial support for international conservation has in recent years expanded well beyond the individuals and family foundations that seeded the movement to include very large foundations like Ford, MacArthur, and Gordon and Betty Moore, as well as the World Bank, its Global Environment Facility, foreign governments, USAID, a host of bilateral and multilateral banks, and transnational corporations. During the 1990s USAID alone pumped almost $300 million into the international conservation movement, which it had come to regard as a vital adjunct to economic prosperity. The five largest conservation organizations, CI, TNC, and WWF among them, absorbed over 70 percent of that expenditure. Indigenous communities received none of it. The Moore Foundation made a singular ten-year commitment of nearly $280 million, the largest environmental grant in history, to just one organization — Conservation International. And all of the BINGOs have become increasingly corporate in recent years, both in orientation and affiliation. The Nature Conservancy now boasts almost two thousand corporate sponsors, while Conservation International has received about $9 million from its two hundred fifty corporate "partners."

With that kind of financial and political leverage, as well as chapters in almost every country of the world, millions of loyal members, and nine-figure budgets, CI, WWF, and TNC have undertaken a hugely expanded global push to increase the number of so-called protected areas (PAs) — parks, reserves, wildlife sanctuaries, and corridors created to preserve biological diversity. In 1962, there were some 1,000 official PAs worldwide. Today there are 108,000, with more being added every day. The total area of land now under conservation protection worldwide has doubled since 1990, when the World Parks Commission set a goal of protecting 10 percent of the planet's surface. That goal has been exceeded, with over 12 percent of all land, a total area of 11.75 million square miles, now protected. That's an area greater than the entire land mass of Africa.

During the 1990s the African nation of Chad increased the amount of national land under protection from 0.1 to 9.1 percent. All of that land had been previously inhabited by what are now an estimated six hundred thousand conservation refugees. No other country besides India, which officially admits to 1.6 million, is even counting this growing new class of refugees. World estimates offered by the UN, IUCN, and a few anthropologists range from 5 million to tens of millions. Charles Geisler, a sociologist at Cornell University who has studied displacements in Africa, is certain the number on that continent alone exceeds 14 million.

The true worldwide figure, if it were ever known, would depend upon the semantics of

words like "eviction," "displacement," and "refugee," over which parties on all sides of the issue argue endlessly. The larger point is that conservation refugees exist on every continent but Antarctica, and by most accounts live far more difficult lives than they once did, banished from lands they thrived on for hundreds, even thousands of years.

John Muir, a forefather of the American conservation movement, argued that "wilderness" should be cleared of all inhabitants and set aside to satisfy the urbane human's need for recreation and spiritual renewal. It was a sentiment that became national policy with the passage of the 1964 Wilderness Act, which defined wilderness as a place "where man himself is a visitor who does not remain." One should not be surprised to find hardy residues of these sentiments among traditional conservation groups. The preference for "virgin" wilderness has lingered on in a movement that has tended to value all nature but human nature, and refused to recognize the positive wildness in human beings.

Expulsions continue around the world to this day. The Indian government, which evicted one hundred thousand adivasis (rural peoples) in Assam between April and July of 2002, estimates that 2 or 3 million more will be displaced over the next decade. The policy is largely in response to a 1993 lawsuit brought by WWF, which demanded that the government increase PAs by 8 percent, mostly in order to protect tiger habitat. A more immediate threat involves the impending removal of several Mayan communities from the Montes Azules region of Chiapas, Mexico, a process begun in the mid-1970s with the intent to preserve virgin tropical forest, which could still quite easily spark a civil war. Conservation International is deeply immersed in that controversy, as are a host of extractive industries.

Tribal people, who tend to think and plan in generations, rather than weeks, months, and years, are still waiting to be paid the consideration promised. Of course the UN draft declaration is the prize because it must be ratified by so many nations. The declaration has failed to pass so far mainly because powerful leaders such as Tony Blair and George Bush threaten to veto it, arguing that there is not and should never be such a thing as collective human rights.

Sadly, the human rights and global conservation communities remain at serious odds over the question of displacement, each side blaming the other for the particular crisis they perceive. Conservation biologists argue that by allowing native populations to grow, hunt, and gather in protected areas, anthropologists, cultural preservationists, and other supporters of indigenous rights become complicit in the decline of biological diversity. Some, like the Wildlife Conservation Society's outspoken president, Steven Sanderson, believe that the entire global conservation agenda has been "hijacked" by advocates for indigenous peoples, placing wildlife and biodiversity in peril. "Forest peoples and their representatives may speak for the forest," Sanderson has said, "They may speak for their version of the forest; but they do not speak for the forest we want to conserve." WCS, originally the New York Zoological Society, is a BINGO lesser in size and stature than the likes of TNC and CI, but more insistent than its colleagues that indigenous territorial rights, while a valid social issue, should be of no concern to wildlife conservationists.

Market-based solutions put forth by human rights groups, which may have been implemented with the best of social and ecological intentions, share a lamentable outcome, barely discernible behind a smoke screen of slick promotion. In almost every case indigenous people are moved into the money economy without the means to participate in it fully. They become permanently indentured as park rangers (never wardens), porters, waiters, harvesters, or, if they manage to learn a European language, ecotour guides. Under this model, "conservation" edges ever closer to "development," while native communities are assimilated into the lowest ranks of national cultures.

It should be no surprise, then, that tribal peoples regard conservationists as just another colonizer — an extension of the deadening forces of economic and cultural hegemony. Whole societies like the Batwa, the Maasai, the Ashinika of Peru, the Gwi and Gana Bushmen of

Botswana, the Karen and Hmong of Southeast Asia, and the Huarani of Ecuador are being transformed from independent and self-sustaining into deeply dependent and poor communities.

WHEN I TRAVELED THROUGHOUT MESOAMERICA and the Andean-Amazon watershed last fall visiting staff members of CI, TNC, WCS, and WWF I was looking for signs that an awakening was on the horizon. The field staff I met were acutely aware that the spirit of exclusion survives in the headquarters of their organizations, alongside a subtle but real prejudice against "unscientific" native wisdom. Dan Campbell, TNC's director in Belize, conceded, "We have an organization that sometimes tries to employ models that don't fit the culture of nations where we work." And Joy Grant, in the same office, said that as a consequence of a protracted disagreement with the indigenous peoples of Belize, local people "are now the key to everything we do."

"We are arrogant," was the confession of a CI executive working in South America, who asked me not to identify her. I was heartened by her admission until she went on to suggest that this was merely a minor character flaw. In fact, arrogance was cited by almost all of the nearly one hundred indigenous leaders I met with as a major impediment to constructive communication with big conservation.

If field observations and field workers' sentiments trickle up to the headquarters of CI and the other BINGOs, there could be a happy ending to this story. There are already positive working models of socially sensitive conservation on every continent, particularly in Australia, Bolivia, Nepal, and Canada, where national laws that protect native land rights leave foreign conservationists no choice but to join hands with indigenous communities and work out creative ways to protect wildlife habitat and sustain biodiversity while allowing indigenous citizens to thrive in their traditional settlements.

In most such cases it is the native people who initiate the creation of a reserve, which is more likely to be called an "indigenous protected area" (IPA) or a "community conservation area" (CCA). IPAs are an invention of Australian aboriginals, many of whom have regained ownership and territorial autonomy under new treaties with the national government, and CCAs are appearing around the world, from Lao fishing villages along the Mekong River to the Mataven Forest in Colombia, where six indigenous tribes live in 152 villages bordering a four-million-acre ecologically intact reserve.

The Kayapo, a nation of Amazonian Indians with whom the Brazilian government and CI have formed a co-operative conservation project, is another such example. Kayapo leaders, renowned for their militancy, openly refused to be treated like just another stakeholder in a two-way deal between a national government and a conservation NGO, as is so often the case with co-operative management plans. Throughout negotiations they insisted upon being an equal player at the table, with equal rights and land sovereignty. As a consequence, the Xingu National Park, the continent's first Indian-owned park, was created to protect the lifeways of the Kayapo and other indigenous Amazonians who are determined to remain within the park's boundaries.

In many locations, once a CCA is established and territorial rights are assured, the founding community invites a BINGO to send its ecologists and wildlife biologists to share in the task of protecting biodiversity by combining Western scientific methodology with indigenous ecological knowledge. And on occasion they will ask for help negotiating with reluctant governments. For example, the Guarani IzoceÃ ±os people in Bolivia invited the Wildlife Conservation Society to mediate a comanagement agreement with their government, which today allows the tribe to manage and own part of the new Kaa-Iya del Gran Chaco National Park.

TOO MUCH HOPE SHOULD PROBABLY NOT be placed in a handful of successful co-management models, however. The unrestrained corporate lust for energy, hardwood, medicines, and strategic metals is still a considerable threat to indigenous communities, arguably a larger threat than conservation. But the lines between the two are being blurred. Particularly problematic is the fact that international conservation organizations remain comfortable working in close quarters with some of the most

aggressive global resource prospectors, such as Boise Cascade, Chevron-Texaco, Mitsubishi, Conoco-Phillips, International Paper, Rio Tinto Mining, Shell, and Weyerhauser, all of whom are members of a CI-created entity called the Center for Environmental Leadership in Business. Of course if the BINGOs were to renounce their corporate partners, they would forfeit millions of dollars in revenue and access to global power without which they sincerely believe they could not be effective.

And there are some respected and influential conservation biologists who still strongly support top-down, centralized "fortress" conservation. Duke University's John Terborgh, for example, author of the classic Requiem for Nature, believes that co-management projects and CCAs are a huge mistake. "My feeling is that a park should be a park, and it shouldn't have any resident people in it," he says. He bases his argument on three decades of research in Peru's Manu National Park, where native Machiguenga Indians fish and hunt animals with traditional weapons. Terborgh is concerned that they will acquire motorboats, guns, and chainsaws used by their fellow tribesmen outside the park, and that biodiversity will suffer. Then there's paleontologist Richard Leakey, who at the 2003 World Parks Congress in South Africa set off a firestorm of protest by denying the very existence of indigenous peoples in Kenya, his homeland, and arguing that "the global interest in biodiversity might sometimes trump the rights of local people."

Yet many conservationists are beginning to realize that most of the areas they have sought to protect are rich in biodiversity precisely because the people who were living there had come to understand the value and mechanisms of biological diversity. Some will even admit that wrecking the lives of 10 million or more poor, powerless people has been an enormous mistake — not only a moral, social, philosophical, and economic mistake, but an ecological one as well. Others have learned from experience that national parks and protected areas surrounded by angry, hungry people who describe themselves as "enemies of conservation" are generally doomed to fail.

More and more conservationists seem to be wondering how, after setting aside a "protected" land mass the size of Africa, global biodiversity continues to decline. Might there be something terribly wrong with this plan — particularly after the Convention on Biological Diversity has documented the astounding fact that in Africa, where so many parks and reserves have been created and where indigenous evictions run highest, 90 percent of biodiversity lies outside of protected areas? If we want to preserve biodiversity in the far reaches of the globe, places that are in many cases still occupied by indigenous people living in ways that are ecologically sustainable, history is showing us that the dumbest thing we can do is kick them out.

Radical American Environmentalism and Wilderness Preservation: A Third World Critique by Ramachandra Guha

1989

I. Introduction

The respected radical journalist Kirkpatrick Sale recently celebrated "the passion of a new and growing movement that has become disenchanted with the environmental establishment and has in recent years mounted a serious and sweeping attack on it—style, substance, systems, sensibilities and all." The vision of those whom Sale calls the "New Ecologists"—and what I refer to in this article as deep ecology—is a compelling one. Decrying the narrowly economic goals of mainstream environmentalism, this new movement aims at nothing less than a philosophical and cultural revolution in human attitudes toward nature. In contrast to the conventional lobbying efforts of environmental professionals based in Washington, it proposes a militant defence of "Mother Earth," an unflinching opposition to human attacks on undisturbed wilderness. With their goals ranging from the spiritual to the political, the adherents of deep ecology span a

wide spectrum of the American environmental movement. As Sale correctly notes, this emerging strand has in a matter of a few years made its presence felt in a number of fields: from academic philosophy (as in the journal Environmental Ethics) to popular environmentalism (for example, the group Earth First!).

In this article I develop a critique of deep ecology from the perspective of a sympathetic outsider. I critique deep ecology not as a general (or even a foot soldier) in the continuing struggle between the ghosts of Gifford Pinchot and John Muir over control of the U.S. environmental movement, but as an outsider to these battles. I speak admittedly as a partisan, but of the environmental movement in India, a country with an ecological diversity comparable to the U.S., but with a radically dissimilar cultural and social history.

My treatment of deep ecology is primarily historical and sociological, rather than philosophical, in nature. Specifically, I examine the cultural rootedness of a philosophy that likes to present itself in universalistic terms. I make two main arguments: first, that deep ecology is uniquely American, and despite superficial similarities in rhetorical style, the social and political goals of radical environmentalism in other cultural contexts (e.g., West Germany and India) are quite different; second, that the social consequences of putting deep ecology into practice on a worldwide basis (what its practitioners are aiming for) are very grave indeed.

II. The Tenets of Deep Ecology

While I am aware that the term deep ecology was coined by the Norwegian philosopher Arne Naess, this article refers specifically to the American variant.

Adherents of the deep ecological perspective in this country, while arguing intensely among themselves over its political and philosophical implications, share some fundamental premises about human-nature interactions. As I see it, the defining characteristics of deep ecology are fourfold.

First, deep ecology argues that the environmental movement must shift from an "anthropocentric" to a "biocentric" perspective. In many respects, an acceptance of the primacy of this distinction constitutes the litmus test of deep ecology. A considerable effort is expended by deep ecologists in showing that the dominant motif in Western philosophy has been anthropocentric—i.e., the belief that man and his works are the center of the universe—and conversely, in identifying those lonely thinkers (Leopold, Thoreau, Muir, Aldous Huxley, Santayana, etc.) who, in assigning man a more humble place in the natural order, anticipated deep ecological thinking. In the political realm, meanwhile, establishment environmentalism (shallow ecology) is chided for casting its arguments in human-centered terms. Preserving nature, the deep ecologists say, has an intrinsic worth quite apart from any benefits preservation may convey to future human generations. The anthropocentric-biocentric distinction is accepted as axiomatic by deep ecologists, it structures their discourse, and much of the present discussions remains mired within it.

The second characteristic of deep ecology is its focus on the preservation of unspoilt wilderness and the restoration of degraded areas to a more pristine condition—to the relative (and sometimes absolute) neglect of other issues on the environmental agenda. I later identify the cultural roots and portentous consequences of this obsession with wilderness. For the moment, let me indicate three distinct sources from which it springs. Historically, it represents a playing out of the preservationist (read radical) and utilitarian (read reformist) dichotomy that has plagued American environmentalism since the turn of the century. Morally, it is an imperative that follows from the biocentric perspective; other species of plants and animals, and nature itself, have an intrinsic right to exist. And finally, the preservation of wilderness also turns on a scientific argument—viz., the value of biological diversity in stabilizing ecological regimes and in retaining a gene pool for future generations. Truly radical policy proposals have been put forward by deep ecologists on the basis of these arguments. The influential poet Gary Snyder, for example, would like to see a 90 percent reduction in human populations to allow a restoration of pristine environments, while others have argued

forcefully that a large portion of the globe must be immediately cordoned off from human beings.

Third, there is a widespread invocation of Eastern spiritual traditions as forerunners of deep ecology. Deep ecology, it is suggested, was practiced both by major religious traditions and at a more popular level by "primal" peoples in non-Western settings. This complements the search for an authentic lineage in Western thought. At one level, the task is to recover those dissenting voices within the Judeo-Christian tradition; at another, to suggest that religious traditions in other cultures are, in contrast, dominantly if not exclusively "biocentric" in their orientation. This coupling of (ancient) Eastern and (modern) ecological wisdom seemingly helps consolidate the claim that deep ecology is a philosophy of universal significance.

Fourth, deep ecologists, whatever their internal differences, share the belief that they are the "leading edge" of the environmental movement. As the polarity of the shallow / deep and anthropocentric / biocentric distinctions makes clear, they see themselves as the spiritual, philosophical, and political vanguard of American and world environmentalism.

III. Toward a Critique

Although I analyze each of these tenets independently, it is important to recognize, as deep ecologists are fond of remarking in reference to nature, the interconnectedness and unity of these individual themes.

(1) Insofar as it has begun to act as a check on man's arrogance and ecological hubris, the transition from an anthropocentric (human-centered) to a biocentric (humans as only one element in the ecosystem) view in both religious and scientific traditions is only to be welcomed. What is unacceptable are the radical conclusions drawn by deep ecology, in particular, that intervention in nature should be guided primarily by the need to preserve biotic integrity rather than by the needs of humans. The latter for deep ecologists is anthropocentric, the former biocentric. This dichotomy is, however, of very little use in understanding the dynamics of environmental degradation. The two fundamental ecological problems facing the globe are (i) overconsumption by the industrialized world and by urban elites in the Third World and (ii) growing militarization, both in a short-term sense (i.e., ongoing regional wars) and in a long-term sense (i.e., the arms race and the prospect of nuclear annihilation). Neither of these problems has any tangible connection to the anthropocentric-biocentric distinction. Indeed, the agents of these processes would barely comprehend this philosophical dichotomy. The proximate causes of the ecologically wasteful characteristics of industrial society and of militarization are far more mundane: at an aggregate level, the dialectic of economic and political structures, and at a micro-level, the life-style choices of individuals. These causes cannot be reduced, whatever the level of analysis, to a deeper anthropocentric attitude toward nature; on the contrary, by constituting a grave threat to human survival, the ecological degradation they cause does not even serve the best interests of human beings! If my identification of the major dangers to the integrity of the natural world is correct, invoking the bogy of anthropocentricism is at best irrelevant and at worst a dangerous obfuscation.

(2) If the above dichotomy is irrelevant, the emphasis on wilderness is positively harmful when applied to the Third World. If in the U.S. the preservationist / utilitarian division is seen as mirroring the conflict between "people" and "interests," in countries such as India the situation is very nearly the reverse. Because India is a long settled and densely populated country in which agrarian populations have a finely balanced relationship with nature, the setting aside of wilderness areas has resulted in a direct transfer of resources from the poor to the rich.

Thus, Project Tiger, a network of parks hailed by the international conservation community as an outstanding success, sharply posits the interests of the tiger against those of poor peasants living in and around the reserve. The designation of tiger reserves was made possible only by the physical displacement of existing villages and their inhabitants; their management requires the continuing exclusion of peasants and livestock. The initial impetus for setting up parks for the tiger and other large mammals such as the rhinoceros and elephant came from two social groups, first, a class of ex-hunters turned

conservationists belonging mostly to the declining Indian feudal elite and second, representatives of international agencies, such as the World Wildlife Fund (WWF) and the International Union for the Conservation of Nature and Natural Resources (IUCN), seeking to transplant the American system of national parks onto Indian soil. In no case have the needs of the local population been taken into account, and as in many parts of Africa, the designated wildlands are managed primarily for the benefit of rich tourists. Until very recently, wildlands preservation has been identified with environmentalism by the state and the conservation elite; in consequence, environmental problems that impinge far more directly on the lives of the poor— e.g., fuel, fodder, water shortages, soil erosion, and air and water pollution—have not been adequately addressed.

Deep ecology provides, perhaps unwittingly, a justification for the continuation of such narrow and inequitable conservation practices under a newly acquired radical guise. Increasingly, the international conservation elite is using the philosophical, moral, and scientific arguments used by deep ecologists in advancing their wilderness crusade. A striking but by no means atypical example is the recent plea by a prominent American biologist for the takeover of large portions of the globe by the author and his scientific colleagues. Writing in a prestigious scientific forum, the Annual Review of Ecology and Systematics, Daniel Janzen argues that only biologists have the competence to decide how the tropical landscape should be used. As "the representatives of the natural world," biologists are "in charge of the future of tropical ecology," and only they have the expertise and mandate to "determine whether the tropical agroscape is to be populated only by humans, their mutualists, commensals, and parasites, or whether it will also contain some islands of the greater nature—the nature that spawned humans, yet has been vanquished by them." Janzen exhorts his colleagues to advance their territorial claims on the tropical world more forcefully, warning that the very existence of these areas is at stake: "if biologists want a tropics in which to biologize, they are going to have to buy it with care, energy, effort, strategy, tactics, time, and cash."

This frankly imperialist manifesto highlights the multiple dangers of the preoccupation with wilderness preservation that is characteristic of deep ecology. As I have suggested, it seriously compounds the neglect by the American movement of far more pressing environmental problems within the Third World. But perhaps more importantly, and in a more insidious fashion, it also provides an impetus to the imperialist yearning of Western biologists and their financial sponsors, organizations such as the WWF and IUCN. The wholesale transfer of a movement culturally rooted in American conservation history can only result in the social uprooting of human populations in other parts of the globe.

(3) I come now to the persistent invocation of Eastern philosophies as antecedent in point of time but convergent in their structure with deep ecology. Complex and internally differentiated religious traditions—Hinduism, Buddhism, and Taoism—are lumped together as holding a view of nature believed to be quintessentially biocentric. Individual philosophers such as the Taoist Lao Tzu are identified as being forerunners of deep ecology. Even an intensely political, pragmatic, and Christian-influenced thinker such as Gandhi has been accorded a wholly undeserved place in the deep ecological pantheon. Thus the Zen teacher Robert Aitken Roshi makes the strange claim that Gandhi's thought was not human-centered and that he practiced an embryonic form of deep ecology which is "traditionally Eastern and is found with differing emphasis in Hinduism, Taoism and in Theravada and Mahayana Buddhism." Moving away from the realm of high philosophy and scriptural religion, deep ecologists make the further claim that at the level of material and spiritual practice "primal" peoples subordinated themselves to the integrity of the biotic universe they inhabited.

I have indicated that this appropriation of Eastern traditions is in part dictated by the need to construct an authentic lineage and in part a desire to present deep ecology as a universalistic philosophy. Indeed, in his substantial and quixotic biography of John Muir, Michael Cohen

goes so far as to suggest that Muir was the "Taoist of the [American] West." This reading of Eastern traditions is selective and does not bother to differentiate between alternate (and changing) religious and cultural traditions; as it stands, it does considerable violence to the historical record. Throughout most recorded history the characteristic form of human activity in the "East" has been a finely tuned but nonetheless conscious and dynamic manipulation of nature. Although mystics such as Lao Tzu did reflect on the spiritual essence of human relations with nature, it must be recognized that such ascetics and their reflections were supported by a society of cultivators whose relationship with nature was a far more active one. Many agricultural communities do have a sophisticated knowledge of the natural environment that may equal (and sometimes surpass) codified "scientific" knowledge; yet, the elaboration of such traditional ecological knowledge (in both material and spiritual contexts) can hardly be said to rest on a mystical affinity with nature of a deep ecological kind. Nor is such knowledge infallible; as the archaeological record powerfully suggests, modern Western man has no monopoly on ecological disasters.

In a brilliant article, the Chicago historian Ronald Inden points out that this romantic and essentially positive view of the East is a mirror image of the scientific and essentially pejorative view normally upheld by Western scholars of the Orient. In either case, the East constitutes the Other, a body wholly separate and alien from the West; it is defined by a uniquely spiritual and nonrational "essence," even if this essence is valorized quite differently by the two schools. Eastern man exhibits a spiritual dependence with respect to nature—the one hand, this is symptomatic of his prescientific and backward self, on the other, of his ecological wisdom and deep ecological consciousness. Both views are monolithic, simplistic, and have the characteristic effect— intended in one case, perhaps unintended in the other—of denying agency and reason to the East and making it the privileged orbit of Western thinkers.

The two apparently opposed perspectives have then a common underlying structure of discourse in which the East merely serves as a vehicle for Western projections. Varying images of the East are raw material for political and cultural battles being played out in the West; they tell us far more about the Western commentator and his desires than about the "East." Inden's remarks apply not merely to Western scholarship on India, but to Orientalist constructions of China and Japan as well.

Although these two views appear to be strongly opposed, they often combine together. Both have a similar interest in sustaining the Otherness of India. The holders of the dominant view, best exemplified in the past in imperial administrative discourse (and today probably by that of 'development economics'), would place a traditional, superstition-ridden India in a position of perpetual tutelage to a modern, rational West. The adherents of the romantic view, best exemplified academically in the discourses of Christian liberalism and analytic psychology, concede the realm of the public and impersonal to the positivist. Taking their succor not from governments and big business, but from a plethora of religious foundations and self-help institutes, and from allies in the 'consciousness' industry, not to mention the important industry of tourism, the romantics insist that India embodies a private realm of the imagination and the religious which modern, western man lacks but needs. They, therefore, like the positivists, but for just the opposite reason, have a vested interest in seeing that the Orientalist view of India as 'spiritual,' 'mysterious,' and 'exotic' is perpetuated.

(4) How radical, finally, are the deep ecologists? Notwithstanding their self-image and strident rhetoric (in which the label "shallow ecology" has an opprobrium similar to that reserved for "social democratic" by Marxist-Leninists), even within the American context their radicalism is limited and it manifests itself quite differently elsewhere.

To my mind, deep ecology is best viewed as a radical trend within the wilderness preservation movement. Although advancing philosophical rather than aesthetic arguments and encouraging political militancy rather than negotiation, its practical emphasis—viz., preservation of unspoilt nature—is virtually

identical. For the mainstream movement, the function of wilderness is to provide a temporary antidote to modern civilization. As a special institution within an industrialized society, the national park "provides an opportunity for respite, contrast, contemplation, and affirmation of values for those who live most of their lives in the workaday world." Indeed, the rapid increase in visitations to the national parks in postwar America is a direct consequence of economic expansion. The emergence of a popular interest in wilderness sites, the historian Samuel Hays points out, was "not a throwback to the primitive, but an integral part of the modern standard of living as people sought to add new 'amenity' and 'aesthetic' goals and desires to their earlier preoccupation with necessities and conveniences."

Here, the enjoyment of nature is an integral part of the consumer society. The private automobile (and the life style it has spawned) is in many respects the ultimate ecological villain, and an untouched wilderness the prototype of ecological harmony; yet, for most Americans it is perfectly consistent to drive a thousand miles to spend a holiday in a national park. They possess a vast, beautiful, and sparsely populated continent and are also able to draw upon the natural resources of large portions of the globe by virtue of their economic and political dominance. In consequence, America can simultaneously enjoy the material benefits of an expanding economy and the aesthetic benefits of unspoilt nature. The two poles of "wilderness" and "civilization" mutually coexist in an internally coherent whole, and philosophers of both poles are assigned a prominent place in this culture. Paradoxically as it may seem, it is no accident that Star Wars technology and deep ecology both find their fullest expression in that leading sector of Western civilization, California.

Deep ecology runs parallel to the consumer society without seriously questioning its ecological and socio-political basis. In its celebration of American wilderness, it also displays an uncomfortable convergence with the prevailing climate of nationalism in the American wilderness movement. For spokesmen such as the historian Roderick Nash, the national park system is America's distinctive cultural contribution to the world, reflective not merely of its economic but of its philosophical and ecological maturity as well. In what Walter Lippman called the American century, the "American invention of national parks" must be exported worldwide. Betraying an economic determinism that would make even a Marxist shudder, Nash believes that environmental preservation is a "full stomach" phenomenon that is confined to the rich, urban, and sophisticated. Nonetheless, he hopes that "the less developed nations may eventually evolve economically and intellectually to the point where nature preservation is more than a business."

The error which Nash makes (and which deep ecology in some respects encourages) is to equate environmental protection with the protection of wilderness. This is a distinctively American notion, borne out of a unique social and environmental history. The archetypal concerns of radical environmentalists in other cultural contexts are in fact quite different. The German Greens, for example, have elaborated a devastating critique of industrial society which turns on the acceptance of environmental limits to growth. Pointing to the intimate links between industrialization, militarization, and conquest, the Greens argue that economic growth in the West has historically rested on the economic and ecological exploitation of the Third World. Rudolf Bahro is characteristically blunt:

> The working class here [in the West] is the richest lower class in the world. And if I look at the problem from the point of view of the whole of humanity, not just from that of Europe, then I must say that the metropolitan working class is the worst exploiting class in history. ...What made poverty bearable in eighteenth- or nineteenth-century Europe was the prospect of escaping it through exploitation of the periphery. But this is no longer a possibility, and continued industrialism in the Third World will mean poverty for whole generations and hunger for millions.

Here the roots of global ecological problems lie in the disproportionate share of resources consumed by the industrialized

countries as a whole and the urban elite within the Third World. Since it is impossible to reproduce an industrial monoculture worldwide, the ecological movement in the West must begin by cleaning up its own act. The Greens advocate the creation of a "no growth" economy, to be achieved by scaling down current (and clearly unsustainable) consumption levels). This radical shift in consumption and production patterns requires the creation of alternate economic and political structures—smaller in scale and more amenable to social participation—but it rests equally on a shift in cultural values. The expansionist character of modern Western man will have to give way to an ethic of renunciation and self-limitation, in which spiritual and communal values play an increasing role in sustaining social life. This revolution in cultural values, however, has as its point of departure an understanding of environmental processes quite different from deep ecology.

Many elements of the Green program find a strong resonance in countries such as India, where a history of Western colonialism and industrial development has benefited only a tiny elite while exacting tremendous social and environmental costs. The ecological battles presently being fought in India have as their epicenter the conflict over nature between the subsistence and largely rural sector and the vastly more powerful commercial-industrial sector. Perhaps the most celebrated of these battles concerns the Chipko (Hug the Tree) movement, a peasant movement against deforestation in the Himalayan foothills. Chipko is only one of several movements that have sharply questioned the nonsustainable demand being placed on the land and vegetative base by urban centers and industry. These include opposition to large dams by displaced peasants, the conflict between small artisan fishing and large-scale trawler fishing for export, the countrywide movements against commercial forest operations, and opposition to industrial pollution among downstream agricultural and fishing communities.

Two features distinguish these environmental movements from their Western counterparts. First, for the sections of society most critically affected by environmental degradation—poor and landless peasants, women, and tribals—it is a question of sheer survival, not of enhancing the quality of life. Second, and as a consequence, the environmental solutions they articulate deeply involve questions of equity as well as economic and political redistribution. Highlighting these differences, a leading Indian environmentalist stresses that "environmental protection per se is of least concern to most of these groups. Their main concern is about the use of the environment and who should benefit from it." They seek to wrest control of nature away from the state and the industrial sector and place it in the hands of rural communities who live within that environment but are increasingly denied access to it. These communities have far more basic needs, their demands on the environment are far less intense, and they can draw upon a reservoir of cooperative social institutions and local ecological knowledge in managing the "commons"—forests, grasslands, and the waters —on a sustainable basis. If colonial and capitalist expansion has both accentuated social inequalities and signaled a precipitous fall in ecological wisdom, an alternate ecology must rest on an alternate society and polity as well.

This brief overview of German and Indian environmentalism has some major implications for deep ecology. Both German and Indian environmental traditions allow for a greater integration of ecological concerns with livelihood and work. They also place a greater emphasis on equity and social justice (both within individual countries and on a global scale) on the grounds that in the absence of social regeneration environmental regeneration has very little chance of succeeding, Finally, and perhaps most significantly, they have escaped the preoccupation with wilderness preservation so characteristic of American cultural and environmental history.

IV. A Homily

In 1958, the economist J. K. Galbraith referred to overconsumption as the unasked question of the American conservation movement. There is a marked selectivity, he wrote, "in the conservationist's approach to materials consumption. If we are concerned

about our great appetite for materials, it is plausible to seek to increase the supply, to decrease waste, to make better use of the stocks available, and to develop substitutes. But what of the appetite itself? Surely this is the ultimate source of the problem. If it continues its geometric course, will it not one day have to be restrained? Yet in the literature of the resource problem this is the forbidden question. Over it hangs a nearly total silence."

The consumer economy and society have expanded tremendously in the three decades since Galbraith penned these words; yet his criticisms are nearly as valid today. I have said "nearly," for there are some hopeful signs. Within the environmental movement several dispersed groups are working to develop ecologically benign technologies and to encourage less wasteful life styles. Moreover, outside the self-defined boundaries of American environmentalism, opposition to the permanent war economy is being carried on by a peace movement that has a distinguished history and impeccable moral and political credentials.

It is precisely these (to my mind, most hopeful) components of the American social scene that are missing from deep ecology. In their widely noticed book, Bill Devall and George Sessions make no mention of militarization or the movements for peace, while activists whose practical focus is on developing ecologically responsible life styles (e.g., Wendell Berry) are derided as "falling short of deep ecological awareness." A truly radical ecology in the American context ought to work toward a synthesis of the appropriate technology, alternate life style, and peace movements. By making the (largely spurious) anthropocentric-biocentric distinction central to the debate, deep ecologists may have appropriated the moral high ground, but they are at the same time doing a serious disservice to American and global environmentalism.

The Trouble with Wilderness; or, Getting Back to the Wrong Nature by William Cronon

1995

The time has come to rethink wilderness.

This will seem a heretical claim to many environmentalists, since the idea of wilderness has for decades been a fundamental tenet—indeed, a passion—of the environmental movement, especially in the United States. For many Americans wilderness stands as the last remaining place where civilization, that all too human disease, has not fully infected the earth. It is an island in the polluted sea of urban-industrial modernity, the one place we can turn for escape from our own too-muchness. Seen in this way, wilderness presents itself as the best antidote to our human selves, a refuge we must somehow recover if we hope to save the planet. As Henry David Thoreau once famously declared, "In Wildness is the preservation of the World." (1)

But is it? The more one knows of its peculiar history, the more one realizes that wilderness is not quite what it seems. Far from being the one place on earth that stands apart from humanity, it is quite profoundly a human creation—indeed, the creation of very particular human cultures at very particular moments in human history. It is not a pristine sanctuary where the last remnant of an untouched, endangered, but still transcendent nature can for at least a little while longer be encountered without the contaminating taint of civilization. Instead, it's a product of that civilization, and could hardly be contaminated by the very stuff of which it is made. Wilderness hides its unnaturalness behind a mask that is all the more beguiling because it seems so natural. As we gaze into the mirror it holds up for us, we too easily imagine that what we behold is Nature when in fact we see the reflection of our own unexamined longings and desires. For this reason, we mistake ourselves when we suppose that wilderness can be the solution to our culture's problematic relationships with the nonhuman world, for wilderness is itself no small part of the problem.

To assert the unnaturalness of so natural a place will no doubt seem absurd or even perverse to many readers, so let me hasten to add that the nonhuman world we encounter in wilderness is far from being merely our own invention. I celebrate with others who love wilderness the beauty and power of the things it contains. Each of us who has spent time there can conjure images and sensations that seem all the more hauntingly real for having engraved themselves so indelibly on our memories. Such memories may be uniquely our own, but they are also familiar enough be to be instantly recognizable to others. Remember this? The torrents of mist shoot out from the base of a great waterfall in the depths of a Sierra canyon, the tiny droplets cooling your face as you listen to the roar of the water and gaze up toward the sky through a rainbow that hovers just out of reach. Remember this too: looking out across a desert canyon in the evening air, the only sound a lone raven calling in the distance, the rock walls dropping away into a chasm so deep that its bottom all but vanishes as you squint into the amber light of the setting sun. And this: the moment beside the trail as you sit on a sandstone ledge, your boots damp with the morning dew while you take in the rich smell of the pines, and the small red fox—or maybe for you it was a raccoon or a coyote or a deer—that suddenly ambles across your path, stopping for a long moment to gaze in your direction with cautious indifference before continuing on its way. Remember the feelings of such moments, and you will know as well as I do that you were in the presence of something irreducibly nonhuman, something profoundly Other than yourself. Wilderness is made of that too.

And yet: what brought each of us to the places where such memories became possible is entirely a cultural invention. Go back 250 years in American and European history, and you do not find nearly so many people wandering around remote corners of the planet looking for what today we would call "the wilderness experience." As late as the eighteenth century, the most common usage of the word "wilderness" in the English language referred to landscapes that generally carried adjectives far different from the ones they attract today. To be a wilderness then was to be "deserted," "savage," "desolate," "barren"—in short, a "waste," the word's nearest synonym. Its connotations were anything but positive, and the emotion one was most likely to feel in its presence was "bewilderment" or terror. (2)

Many of the word's strongest associations then were biblical, for it is used over and over again in the King James Version to refer to places on the margins of civilization where it is all too easy to lose oneself in moral confusion and despair. The wilderness was where Moses had wandered with his people for forty years, and where they had nearly abandoned their God to worship a golden idol. (3) "For Pharaoh will say of the Children of Israel," we read in Exodus, "They are entangled in the land, the wilderness hath shut them in." (4) The wilderness was where Christ had struggled with the devil and endured his temptations: "And immediately the Spirit driveth him into the wilderness. And he was there in the wilderness for forty days tempted of Satan; and was with the wild beasts; and the angels ministered unto him." (5) The "delicious Paradise" of John Milton's Eden was surrounded by "a steep wilderness, whose hairy sides /Access denied" to all who sought entry." When Adam and Eve were driven from that garden, the world they entered was a wilderness that only their labor and pain could redeem. Wilderness, in short, was a place to which one came only against one's will, and always in fear and trembling. Whatever value it might have arose solely from the possibility that it might be "reclaimed" and turned toward human ends—planted as a garden, say, or a city upon a hill. (7) In its raw state, it had little or nothing to offer civilized men and women.

But by the end of the nineteenth century, all this had changed. The wastelands that had once seemed worthless had for some people come to seem almost beyond price. That Thoreau in 1862 could declare wildness to be the preservation of the world suggests the sea change that was going on. Wilderness had once been the antithesis of all that was orderly and good—it had been the darkness, one might say, on the far side of the garden wall—and yet now it was frequently likened to Eden itself. When John Muir arrived in the Sierra Nevada in 1869, he would declare,

"No description of Heaven that I have ever heard or read of seems half so fine." (8) He was hardly alone in expressing such emotions. One by one, various corners of the American map came to be designated as sites whose wild beauty was so spectacular that a growing number of citizens had to visit and see them for themselves. Niagara Falls was the first to undergo this transformation, but it was soon followed by the Catskills, the Adirondacks, Yosemite, Yellowstone, and others. Yosemite was deeded by the U. S. government to the state of California in 1864 as the nation's first wildland park, and Yellowstone became the first true national park in 1872. (9)

By the first decade of the twentieth century, in the single most famous episode in American conservation history, a national debate had exploded over whether the city of San Francisco should be permitted to augment its water supply by damming the Tuolumne River in Hetch Hetchy valley, well within the boundaries of Yosemite National Park. The dam was eventually built, but what today seems no less significant is that so many people fought to prevent its completion. Even as the fight was being lost, Hetch Hetchy became the baffle cry of an emerging movement to preserve wilderness. Fifty years earlier, such opposition would have been unthinkable. Few would have questioned the merits of "reclaiming" a wasteland like this in order to put it to human use. Now the defenders of Hetch Hetchy attracted widespread national attention by portraying such an act not as improvement or progress but as desecration and vandalism. Lest one doubt that the old biblical metaphors had been turned completely on their heads, listen to John Muir attack the dam's defenders. "Their arguments," he wrote, "are curiously like those of the devil, devised for the destruction of the first garden—so much of the very best Eden fruit going to waste; so much of the best Tuolumne water and Tuolumne scenery going to waste." (10) For Muir and the growing number of Americans who shared his views, Satan's home had become God's Own Temple.

The sources of this rather astonishing transformation were many, but for the purposes of this essay they can be gathered under two broad headings: the sublime and the frontier. Of the two, the sublime is the older and more pervasive cultural construct, being one of the most important expressions of that broad transatlantic movement we today label as romanticism; the frontier is more peculiarly American, though it too had its European antecedents and parallels. The two converged to remake wilderness in their own image, freighting it with moral values and cultural symbols that it carries to this day. Indeed, it is not too much to say that the modern environmental movement is itself a grandchild of romanticism and post-frontier ideology, which is why it is no accident that so much environmentalist discourse takes its bearings from the wilderness these intellectual movements helped create. Although wilderness may today seem to be just one environmental concern among many, it in fact serves as the foundation for a long list of other such concerns that on their face seem quite remote from it. That is why its influence is so pervasive and, potentially, so insidious.

To gain such remarkable influence, the concept of wilderness had to become loaded with some of the deepest core values of the culture that created and idealized it: it had to become sacred. This possibility had been present in wilderness even in the days when it had been a place of spiritual danger and moral temptation. If Satan was there, then so was Christ, who had found angels as well as wild beasts during His sojourn in the desert. In the wilderness the boundaries between human and nonhuman, between natural and supernatural, had always seemed less certain than elsewhere. This was why the early Christian saints and mystics had often emulated Christ's desert retreat as they sought to experience for themselves the visions and spiritual testing He had endured. One might meet devils and run the risk of losing one's soul in such a place, but one might also meet God. For some that possibility was worth almost any price.

By the eighteenth century this sense of the wilderness as a landscape where the supernatural lay just beneath the surface was expressed in the doctrine of the sublime, a word whose modern usage has been so watered down by commercial hype and tourist advertising that it retains only a dim echo of its former power. (11) In the theories of Edmund Burke, Immanuel Kant, William

Gilpin, and others, sublime landscapes were those rare places on earth where one had more chance than elsewhere to glimpse the face of God. (12) Romantics had a clear notion of where one could be most sure of having this experience. Although God might, of course, choose to show Himself anywhere, He would most often be found in those vast, powerful landscapes where one could not help feeling insignificant and being reminded of one's own mortality. Where were these sublime places? The eighteenth century catalog of their locations feels very familiar, for we still see and value landscapes as it taught us to do. God was on the mountaintop, in the chasm, in the waterfall, in the thundercloud, in the rainbow, in the sunset. One has only to think of the sites that Americans chose for their first national parks—Yellowstone, Yosemite, Grand Canyon, Rainier, Zion—to realize that virtually all of them fit one or more of these categories. Less sublime landscapes simply did not appear worthy of such protection; not until the 1940s, for instance, would the first swamp be honored, in Everglades National Park, and to this day there is no national park in the grasslands. (13)

Among the best proofs that one had entered a sublime landscape was the emotion it evoked. For the early romantic writers and artists who first began to celebrate it, the sublime was far from being a pleasurable experience. The classic description is that of William Wordsworth as he recounted climbing the Alps and crossing the Simplon Pass in his autobiographical poem "The Prelude."

There, surrounded by crags and waterfalls, the poet felt himself literally to be in the presence of the divine—and experienced an emotion remarkably close to terror:

> The immeasurable height
> Of woods decaying, never to be decayed,
> The stationary blasts of waterfalls,
> And in the narrow rent at every turn
> Winds thwarting winds, bewildered and forlorn,
> The torrents shooting from the clear blue sky,
> The rocks that muttered close upon our ears,
> Black drizzling crags that spake by the way-side
> As if a voice were in them, the sick sight
> And giddy prospect of the raving stream,
> The unfettered clouds and region of the Heavens,
> Tumult and peace, the darkness and the light
> Were all like workings of one mind, the features
> Of the same face, blossoms upon one tree;
> Characters of the great Apocalypse,
> The types and symbols of Eternity,
> Of first, and last, and midst, and without end. (14)

This was no casual stroll in the mountains, no simple sojourn in the gentle lap of nonhuman nature. What Wordsworth described was nothing less than a religious experience, akin to that of the Old Testament prophets as they conversed with their wrathful God. The symbols he detected in this wilderness landscape were more supernatural than natural, and they inspired more awe and dismay than joy or pleasure. No mere mortal was meant to linger long in such a place, so it was with considerable relief that Wordsworth and his companion made their way back down from the peaks to the sheltering valleys. Lest you suspect that this view of the sublime was limited to timid Europeans who lacked the American know-how for feeling at home in the wilderness, remember Henry David Thoreau's 1846 climb of Mount Katahdin, in Maine. Although Thoreau is regarded by many today as one of the great American celebrators of wilderness, his emotions about Katahdin were no less ambivalent than Wordsworth's about the Alps.

It was vast, Titanic, and such as man never inhabits. Some part of the beholder, even some vital part, seems to escape through the loose grating of his ribs as he ascends. He is more lone than you can imagine .... Vast, Titanic, inhuman Nature has got him at disadvantage, caught him alone, and pilfers him of some of his divine faculty. She does not smile on him as in the plains. She seems to say sternly, why came ye here before your time? This ground is not prepared for you. Is it not enough that I smile in the valleys? I have never made this soil for thy feet, this air for thy breathing, these rocks for thy

neighbors. I cannot pity nor fondle thee here, but forever relentlessly drive thee hence to where I am kind. Why seek me where I have not called thee, and then complain because you find me but a stepmother? (15)

This is surely not the way a modern backpacker or nature lover would describe Maine's most famous mountain, but that is because Thoreau's description owes as much to Wordsworth and other romantic contemporaries as to the rocks and clouds of Katahdin itself. His words took the physical mountain on which he stood and transmuted it into an icon of the sublime: a symbol of God's presence on earth. The power and the glory of that icon were such that only a prophet might gaze on it for long. In effect, romantics like Thoreau joined Moses and the children of Israel in Exodus when "they looked toward the wilderness, and behold, the glory of the Lord appeared in the cloud." (16)

But even as it came to embody the awesome power of the sublime, wilderness was also being tamed—not just by those who were building settlements in its midst but also by those who most celebrated its inhuman beauty. By the second half of the nineteenth century, the terrible awe that Wordsworth and Thoreau regarded as the appropriately pious stance to adopt in the presence of their mountaintop God was giving way to a much more comfortable, almost sentimental demeanor. As more and more tourists sought out the wilderness as a spectacle to be looked at and enjoyed for its great beauty, the sublime in effect became domesticated. The wilderness was still sacred, but the religious sentiments it evoked were more those of a pleasant parish church than those of a grand cathedral or a harsh desert retreat. The writer who best captures this late romantic sense of a domesticated sublime is undoubtedly John Muir, whose descriptions of Yosemite and the Sierra Nevada reflect none of the anxiety or terror one finds in earlier writers.

No pain here, no dull empty hours, no fear of the past, no fear of the future. These blessed mountains are so compactly filled with God's beauty, no petty personal hope or experience has room to be. Drinking this champagne water is pure pleasure, so is breathing the living air, and every movement of limbs is pleasure, while the body seems to feel beauty when exposed to it as it feels the campfire or sunshine, entering not by the eyes alone, but equally through all one's flesh like radiant heat, making a passionate ecstatic pleasure glow not explainable.

The emotions Muir describes in Yosemite could hardly be more different from Thoreau's on Katahdin or Wordsworth's on the Simplon Pass. Yet all three men are participating in the same cultural tradition and contributing to the same myth—the mountain as cathedral. The three may differ in the way they choose to express their piety—Wordsworth favoring an awe-filled bewilderment, Thoreau a stern loneliness, Muir a welcome ecstasy—but they agree completely about the church in which they prefer to worship. Muir's closing words on North Dome diverge from his older contemporaries only in mood, not in their ultimate content:

Perched like a fly on this Yosemite dome, I gaze and sketch and bask, oftentimes settling down into dumb admiration without definite hope of ever learning much, yet with the longing, unresting effort that lies at the door of hope, humbly prostrate before the vast display of God's power, and eager to offer self-denial and renunciation with eternal toil to learn any lesson in the divine manuscript. (17)

Muir's "divine manuscript" and Wordsworth's "Characters of the great Apocalypse" are in fact pages from the same holy book. The sublime wilderness had ceased to be place of satanic temptation and become instead a sacred temple, much as it continues to be for those who love it today.

But the romantic sublime was not the only cultural movement that helped transform wilderness into a sacred American icon during the nineteenth century. No less important was the powerful romantic attraction of primitivism, dating back at least to of that the best antidote to the ills of an overly refined and civilized modern world was a return to simpler, more primitive living. In the United States, this was embodied most strikingly in the national myth of the frontier. The historian Frederick Jackson Turner wrote in 1893 the classic academic statement of this myth, but it had been part of American cultural traditions for well over a century. As Turner described the process, easterners and

European immigrants, in moving to the wild unsettled lands of the frontier, shed the trappings of civilization, rediscovered their primitive racial energies, reinvented direct democratic institutions, and by reinfused themselves with a vigor, an independence, and a creativity that the source of American democracy and national character. Seen in this way, wild country became a place not just of religious redemption but of national renewal, the quintessential location for experiencing what it meant to be an American.

One of Turner's most provocative claims was that by the 1890s the frontier was passing away. Never again would "such gifts of free land offer themselves" to the American people. "The frontier has gone," he declared, "and with its going has closed the first period of American history." (18) Built into the frontier myth from its very beginning was the notion that this crucible of American identity was temporary and would pass away. Those who have celebrated the frontier have almost always looked backward as they did so, mourning an older, simpler, truer world that is about to disappear, forever. That world and all of its attractions, Turner said, depended on free land—on wilderness. Thus, in the myth of the vanishing frontier lay the seeds of wilderness preservation in the United States, for if wild land had been so crucial in the making of the nation, then surely one must save its last remnants as monuments to the American past—and as an insurance policy to protect its future. It is no accident that the movement to set aside national parks and wilderness areas began to gain real momentum at precisely the time that laments about the passing frontier reached their peak. To protect wilderness was in a very real sense to protect the nation's most sacred myth of origin.

Among the core elements of the frontier myth was the powerful sense among certain groups of Americans that wilderness was the last bastion of rugged individualism. Turner tended to stress communitarian themes when writing frontier history, asserting that Americans in primitive conditions had been forced to band together with their neighbors to form communities and democratic institutions. For other writers, however, frontier democracy for communities was less compelling than frontier freedom for individuals. (19) By fleeing to the outer margins of settled land and society—so the story ran—an individual could escape the confining strictures of civilized life. The mood among writers who celebrated frontier individualism was almost always nostalgic; they lamented not just a lost way of life but the passing of the heroic men who had embodied that life. Thus Owen Wister in the introduction to his classic 1902 novel The Virginian could write of "a vanished world" in which "the horseman, the cow-puncher, the last romantic figure upon our soil" rode only "in his historic yesterday" and would "never come again." For Wister, the cowboy was a man who gave his word and kept it ("Wall Street would have found him behind the times"), who did not talk lewdly to women ("Newport would have thought him old-fashioned"), who worked and played hard, and whose "ungoverned hours did not unman him." (20) Theodore Roosevelt wrote with much the same nostalgic fervor about the "fine, manly qualities" of the "wild rough-rider of the plains." No one could be more heroically masculine, thought Roosevelt, or more at home in the western wilderness:

> There he passes his days, there he does his life-work, there, when he meets death, he faces it as he has faced many other evils, with quiet, uncomplaining fortitude. Brave, hospitable, hardy, and adventurous, he is the grim pioneer of our race; he prepares the way for the civilization from before whose face he must himself disappear. Hard and dangerous though his existence is, it has yet a wild attraction that strongly draws to it his bold, free spirit (21)

This nostalgia for a passing frontier way of life inevitably implied ambivalence, if not downright hostility, toward modernity and all that it represented. If one saw the wild lands of the frontier as freer, truer, and more natural than other, more modern places, then one was also inclined to see the cities and factories of urban-industrial civilization as confining, false, and artificial. Owen Wister looked at the post-frontier "transition" that had followed "the horseman of the plains," and did not like what he saw: "a shapeless state, a condition of men and manners as unlovely as is that moment in the year when

winter is gone and spring not come, and the face of Nature is ugly." (22) In the eyes of writers who shared Wister's distaste for modernity, civilization contaminated its inhabitants and absorbed them into the faceless, collective, contemptible life of the crowd. For all of its troubles and dangers, and despite the fact that it must pass away, the frontier had been a better place. If civilization was to be redeemed, it would be by men like the Virginian who could retain their frontier virtues even as they made the transition to post-frontier life.

The mythic frontier individualist was almost always masculine in gender: here, in the wilderness, a man could be a real man, the rugged individual he was meant to be before civilization sapped his energy and threatened his masculinity. Wister's contemptuous remarks about Wall Street and Newport suggest what he and many others of his generation believed—that the comforts and seductions of civilized life were especially insidious for men, who all too easily became emasculated by the feminizing tendencies of civilization. More often than not, men who felt this way came, like Wister and Roosevelt, from elite class backgrounds. The curious result was that frontier nostalgia became an important vehicle for expressing a peculiarly bourgeois form of antimodernism. The very men who most benefited from urban-industrial capitalism were among those who believed they must escape its debilitating effects. If the frontier was passing, then men who had the means to do so should preserve for themselves some remnant of its wild landscape so that they might enjoy the regeneration and renewal that came from sleeping under the stars, participating in blood sports, and living off the land. The frontier might be gone, but the frontier experience could still be had if only wilderness were preserved.

Thus the decades following the Civil War saw more and more of the nation's wealthiest citizens seeking out wilderness for themselves. The elite passion for wild land took many forms: enormous estates in the Adirondacks and elsewhere (disingenuously called "camps" despite their many servants and amenities), cattle ranches for would-be rough riders on the Great Plains, guided big-game hunting trips in the Rockies, and luxurious resort hotels wherever railroads pushed their way into sublime landscapes. Wilderness suddenly emerged as the landscape of choice for elite tourists, who brought with them strikingly urban ideas of the countryside through which they traveled. For them, wild land was not a site for productive labor and not a permanent home; rather, it was a place of recreation. One went to the wilderness not as a producer but as a consumer, hiring guides and other backcountry residents who could serve as romantic surrogates for the rough riders and hunters of the frontier if one was willing to overlook their new status as employees and servants of the rich. In just this way, wilderness came to embody the national frontier myth, standing for the wild freedom of America's past and seeming to represent a highly attractive natural alternative to the ugly artificiality of modern civilization. The irony, of course, was that in the process wilderness came to reflect the very civilization its devotees sought to escape. Ever since the nineteenth century, celebrating wilderness has been an activity mainly for well-to-do city folks. Country people generally know far too much about working the land to regard unworked land as their ideal. In contrast, elite urban tourists and wealthy sportsmen projected their leisure-time frontier fantasies onto the American landscape and so created wilderness in their own image.

There were other ironies as well, The movement to set aside national parks and wilderness areas followed hard on the heels of the final Indian wars, in which the prior human inhabitants of these areas were rounded up and moved onto reservations. The myth of the wilderness as "virgin " uninhabited land had always been especially cruel when seen from the perspective of the Indians who had once called that land home. Now they were forced to move elsewhere, with the result that tourists could safely enjoy the illusion that they were seeing their nation in its pristine, original state, in the new morning of God's own creation. (23) Among the things that most marked the new national parks as reflecting a post-frontier consciousness was the relative absence of human violence within their boundaries. The actual frontier had often been a place of conflict, in which invaders and invaded fought for control of land and

resources. Once set aside within the fixed and carefully policed boundaries of the modern bureaucratic state, the wilderness lost its savage image and became safe: a place more of reverie than of revulsion or fear. Meanwhile, its original inhabitants were kept out by dint of force, their earlier uses of the land redefined as inappropriate or even illegal. To this day, for instance, the Blackfeet continue to be accused of "poaching" on the lands of Glacier National Park that originally belonged to them and that were ceded by treaty only with the proviso that they be permitted to hunt there. (24)

The removal of Indians to create an "uninhabited wilderness"—uninhabited as never before in the human history of the place—reminds us just how invented, just how constructed, the American wilderness really is. To return to my opening argument: there is nothing natural about the concept of wilderness. It is entirely a creation of the culture that holds it dear, a product of the very history it seeks to deny. Indeed, one of the most striking proofs of the cultural invention of wilderness is its thoroughgoing erasure of the history from which it sprang. In virtually all of its manifestations, wilderness represents a flight from history. Seen as the original garden, it is a place outside of time, from which human beings had to be ejected before the fallen world of history could properly begin. Seen as the frontier, it is a savage world at the dawn of civilization, whose transformation represents the very beginning of the national historical epic. Seen as the bold landscape of frontier heroism, it is the place of youth and childhood, into which men escape by abandoning their pasts and entering a world of freedom where the constraints of civilization fade into memory. Seen as the sacred sublime, it is the home of a God who transcends history by standing as the One who remains untouched and unchanged by time's arrow. No matter what the angle from which we regard it, wilderness offers us the illusion that we can escape the cares and troubles of the world in which our past has ensnared us. (25)

This escape from history is one reason why the language we use to talk about wilderness is often permeated with spiritual and religious values that reflect human ideals far more than the material world of physical nature. Wilderness fulfills the old romantic project of secularizing Judeo-Christian values so as to make a new cathedral not in some petty human building but in God's own creation, Nature itself. Many environmentalists who reject traditional notions of the Godhead and who regard themselves as agnostics or even atheists nonetheless express feelings tantamount to religious awe when in the presence of wilderness—a fact that testifies to the success of the romantic project. Those who have no difficulty seeing God as the expression of our human dreams and desires nonetheless have trouble recognizing that in a secular age Nature can offer precisely the same sort of mirror.

Thus it is that wilderness serves as the unexamined foundation on which so many of the quasi-religious values of modern environmentalism rest. The critique of modernity that is one of environmentalism's most important contributions to the moral and political discourse of our time more often than not appeals, explicitly or implicitly, to wilderness as the standard against which to measure the failings of our human world. Wilderness is the natural, unfallen antithesis of an unnatural civilization that has lost its soul. It is a place of freedom in which we can recover the true selves we have lost to the corrupting influences of our artificial lives. Most of all, it is the ultimate landscape of authenticity. Combining the sacred grandeur of the sublime with the primitive simplicity of the frontier, it is the place where we can see the world as it really is, and so know ourselves as we really are—or ought to be.

But the trouble with wilderness is that it quietly expresses and reproduces the very values its devotees seek to reject. The flight from history that is very nearly the core of wilderness represents the false hope of an escape from responsibility, the illusion that we can somehow wipe clean the slate of our past and return to the tabula rasa that supposedly existed before we began to leave our marks on the world. The dream of an unworked natural landscape is very much the fantasy of people who have never themselves had to work the land to make a living — urban folk for whom food comes from a supermarket or a restaurant instead of a field, and for whom the wooden houses in which they

live and work apparently have no meaningful connection to the forests in which trees grow and die. Only people whose relation to the land was already alienated could hold up wilderness as a model for human life in nature, for the romantic ideology of wilderness leaves precisely nowhere for human beings actually to make their living from the land.

This, then, is the central paradox: wilderness embodies a dualistic vision in which the human is entirely outside the natural. If we allow ourselves to believe that nature, to be true, must also be wild, then our very presence in nature represents its fall. The place where we are is the place where nature is not. If this is so—if by definition wilderness leaves no place for human beings, save perhaps as contemplative sojourners enjoying their leisurely reverie in God's natural cathedral—then also by definition it can offer no solution to the environmental and other problems that confront us. To the extent that we celebrate wilderness as the measure with which we judge civilization, we reproduce the dualism that sets humanity and nature at opposite poles. We thereby leave ourselves little hope of discovering what an ethical, sustainable, honorable human place in nature might actually look like.

Worse: to the extent that we live in an urban-industrial civilization but at the same time pretend to ourselves that our real home is in the wilderness, to just that extent we give ourselves permission to evade responsibility for the lives we actually lead. We inhabit civilization while holding some part of ourselves—what we imagine to be the most precious part—aloof from its entanglements. We work our nine-to-five jobs in its institutions, we eat its food, we drive its cars (not least to reach the wilderness), we benefit from the intricate and all too invisible networks with which it shelters us, all the while pretending that these things are not an essential part of who we are. By imagining that our true home is in the wilderness, we forgive ourselves the homes we actually inhabit. In its flight from history, in its siren song of escape, in its reproduction of the dangerous dualism that sets human beings outside of nature—in all of these ways, wilderness poses a serious threat to responsible environmentalism at the end of the twentieth century.

By now I hope it is clear that my criticism in this essay is not directed at wild nature per se, or even at efforts to set aside large tracts of wild land, but rather at the specific habits of thinking that flow from this complex cultural construction called wilderness. It is not the things we label as wilderness that are the problem—for nonhuman nature and large tracts of the natural world do deserve protection—but rather what we ourselves mean when we use the label. Lest one doubt how pervasive these habits of thought actually are in contemporary environmentalism, let me list some of the places where wilderness serves as the ideological underpinning for environmental concerns that might otherwise seem quite remote from it. Defenders of biological diversity, for instance, although sometimes appealing to more utilitarian concerns, often point to "untouched" ecosystems as the best and richest repositories of the undiscovered species we must certainly try to protect. Although at first blush an apparently more "scientific" concept than wilderness, biological diversity in fact invokes many of the same sacred values, which is why organizations like the Nature Conservancy have been so quick to employ it as an alternative to the seemingly fuzzier and more problematic concept of wilderness. There is a paradox here, of course. To the extent that biological diversity (indeed, even wilderness itself) is likely to survive in the future only by the most vigilant and self-conscious management of the ecosystems that sustain it, the ideology of wilderness is potentially in direct conflict with the very thing it encourages us to protect. (26) The most striking instances of this have revolved around "endangered species," which serve as vulnerable symbols of biological diversity while at the same time standing as surrogates for wilderness itself. The terms of the Endangered Species Act in the United States have often meant that those hoping to defend pristine wilderness have had to rely on a single endangered species like the spotted owl to gain legal standing for their case—thereby making the full power of the sacred land inhere in a single numinous organism whose habitat then becomes the object of intense debate about appropriate management and use. (27) The ease with which

anti-environmental forces like the wise-use movement have attacked such single-species preservation efforts suggests the vulnerability of strategies like these.

Perhaps partly because our own conflicts over such places and organisms have become so messy, the convergence of wilderness values with concerns about biological diversity and endangered species has helped produce a deep fascination for remote ecosystems, where it is easier to imagine that nature might somehow be "left alone" to flourish by its own pristine devices. The classic example is the tropical rain forest, which since the 1970s has become the most powerful modern icon of unfallen, sacred land—a veritable Garden of Eden—for many Americans and Europeans. And yet protecting the rain forest in the eyes of First World environmentalists all too often means protecting it from the people who live there. Those who seek to preserve such "wilderness" from the activities of native peoples run the risk of reproducing the same tragedy—being forceably removed from an ancient home—that befell American Indians. Third World countries face massive environmental problems and deep social conflicts, but these are not likely to be solved by a cultural myth that encourages us to "preserve" peopleless landscapes that have not existed in such places for millennia. At its worst, as environmentalists are beginning to realize, exporting American notions of wilderness in this way can become an unthinking and self-defeating form of cultural imperialism. (28)

Perhaps the most suggestive example of the way that wilderness thinking can underpin other environmental concerns has emerged in the recent debate about "global change." In 1989 the journalist Bill McKibben published a book entitled The End of Nature, in which he argued that the prospect of global climate change as a result of unintentional human manipulation of the atmosphere means that nature as we once knew it no longer exists. (29) Whereas earlier generations inhabited a natural world that remained more or less unaffected by their actions, our own generation is uniquely different. We and our children will henceforth live in a biosphere completely altered by our own activity, a planet in which the human and the natural can no longer be distinguished, because the one has overwhelmed the other. In McKibben's view, nature has died, and we are responsible for killing it. "The planet," he declares, "is utterly different now." (30)

But such a perspective is possible only if we accept the wilderness premise that nature, to be natural, must also be pristine—remote from humanity and untouched by our common past. In fact, everything we know about environmental history suggests that people have been manipulating the natural world on various scales for as long as we have a record of their passing. Moreover, we have unassailable evidence that many of the environmental changes we now face also occurred quite apart from human intervention at one time or another in the earth's past. (31) The point is not that our current problems are trivial, or that our devastating effects on the earth's ecosystems should be accepted as inevitable or "natural." It is rather that we seem unlikely to make much progress in solving these problems if we hold up to ourselves as the mirror of nature a wilderness we ourselves cannot inhabit.

To do so is merely to take to a logical extreme the paradox that was built into wilderness from the beginning: if nature dies because we enter it, then the only way to save nature is to kill ourselves. The absurdity of this proposition flows from the underlying dualism it expresses. Not only does it ascribe greater power to humanity that we in fact possess—physical and biological nature will surely survive in some form or another long after we ourselves have gone the way of all flesh—but in the end it offers us little more than a self-defeating counsel of despair. The tautology gives us no way out: if wild nature is the only thing worth saving, and if our mere presence destroys it, then the sole solution to our own unnaturalness, the only way to protect sacred wilderness from profane humanity, would seem to be suicide. It is not a proposition that seems likely to produce very positive or practical results.

And yet radical environmentalists and deep ecologists all too frequently come close to accepting this premise as a first principle. When they express, for instance, the popular notion that our environmental problems began with the

invention of agriculture, they push the human fall from natural grace so far back into the past that all of civilized history becomes a tale of ecological declension. Earth First! founder Dave Foreman captures the familiar parable succinctly when he writes,

Before agriculture was midwifed in the Middle East, humans were in the wilderness. We had no concept of "wilderness" because everything was wilderness and we were a part of it. But with irrigation ditches, crop surpluses, and permanent villages, we became apart from the natural world.... Between the wilderness that created us and the civilization created by us grew an ever-widening rift. (32)

In this view the farm becomes the first and most important battlefield in the long war against wild nature, and all else follows in its wake. From such a starting place, it is hard not to reach the conclusion that the only way human beings can hope to live naturally on earth is to follow the hunter-gatherers back into a wilderness Eden and abandon virtually everything that civilization has given us. It may indeed turn out that civilization will end in ecological collapse or nuclear disaster, whereupon one might expect to find any human survivors returning to a way of life closer to that celebrated by Foreman and his followers. For most of us, though, such a debacle would be cause for regret, a sign that humanity had failed to fulfill its own promise and failed to honor its own highest values— including those of the deep ecologists.

In offering wilderness as the ultimate hunter-gatherer alternative to civilization, Foreman reproduces an extreme but still easily recognizable version of the myth of frontier primitivism. When he writes of his fellow Earth Firsters that "we believe we must return to being animal, to glorying in our sweat, hormones, tears, and blood" and that "we struggle against the modern compulsion to become dull, passionless androids," he is following in the footsteps of Owen Wister. (33) Although his arguments give primacy to defending biodiversity and the autonomy of wild nature, his prose becomes most passionate when he speaks of preserving "the wilderness experience." His own ideal "Big Outside" bears an uncanny resemblance to that of the frontier myth: wide open spaces and virgin land with no trails, no signs, no facilities, no maps, no guides, no rescues, no modern equipment. Tellingly, it is a land where hardy travelers can support themselves by hunting with "primitive weapons (bow and arrow, atlatl, knife, sharp rock)." (34) Foreman claims that "the primary value of wilderness is not as a proving ground for young Huck Finns and Annie Oakleys," but his heart is with Huck and Annie all the same. He admits that "preserving a quality wilderness experience for the human visitor, letting her or him flex Paleolithic muscles or seek visions, remains a tremendously important secondary purpose." (35) Just so does Teddy Roosevelt's rough rider live on in the greener garb of a new age.

However much one may be attracted to such a vision, it entails problematic consequences. For one, it makes wilderness the locus for an epic struggle between malign civilization and benign nature, compared with which all other social, political, and moral concerns seem trivial. Foreman writes, "The preservation of wildness and native diversity is the most important issue. Issues directly affecting only humans pale in comparison." (36) Presumably so do any environmental problems whose victims are mainly people, for such problems usually surface in landscapes that have already "fallen" and are no longer wild. This would seem to exclude from the radical environmentalist agenda problems of occupational health and safety in industrial settings, problems of toxic waste exposure on "unnatural" urban and agricultural sites, problems of poor children poisoned by lead exposure in the inner city, problems of famine and poverty and human suffering in the "overpopulated" places of the earth—problems, in short, of environmental justice. If we set too high a stock on wilderness, too many other corners of the earth become less than natural and too many other people become less than human, thereby giving us permission not to care much about their suffering or their fate.

It is no accident that these supposedly inconsequential environmental problems affect mainly poor people, for the long affiliation

between wilderness and wealth means that the only poor people who count when wilderness is the issue are hunter-gatherers, who presumably do not consider themselves to be poor in the first place. The dualism at the heart of wilderness encourages its advocates to conceive of its protection as a crude conflict between the "human" and the "nonhuman"—or, more often, between those who value the nonhuman and those who do not. This in turn tempts one to ignore crucial differences among humans and the complex cultural and historical reasons why different peoples may feel very differently about the meaning of wilderness.

Why, for instance, is the " wilderness experience" so often conceived as a form of recreation best enjoyed by those whose class privileges give them the time and resources to leave their jobs behind and "get away from it all?" Why does the protection of wilderness so often seem to pit urban recreationists against rural people who actually earn their living from the land (excepting those who sell goods and services to the tourists themselves)? Why in the debates about pristine natural areas are "primitive" peoples idealized, even sentimentalized, until the moment they do something unprimitive, modern, and unnatural, and thereby fall from environmental grace? What are the consequences of a wilderness ideology that devalues productive labor and the very concrete knowledge that comes from working the land with one's own hands? (37) All of these questions imply conflicts among different groups of people, conflicts that are obscured behind the deceptive clarity of "human" vs. "nonhuman." If in answering these knotty questions we resort to so simplistic an opposition, we are almost certain to ignore the very subtleties and complexities we need to understand.

But the most troubling cultural baggage that accompanies the celebration of wilderness has less to do with remote rain forests and peoples than with the ways we think about ourselves—we American environmentalists who quite rightly worry about the future of the earth and the threats we pose to the natural world. Idealizing a distant wilderness too often means not idealizing the environment in which we actually live, the landscape that for better or worse we call home. Most of our most serious environmental problems start right here, at home, and if we are to solve those problems, we need an environmental ethic that will tell us as much about using nature as about not using it. The wilderness dualism tends to cast any use as abuse, and thereby denies us a middle ground in which responsible use and non-use might attain some kind of balanced, sustainable relationship. My own belief is that only by exploring this middle ground will we learn ways of imagining a better world for all of us: humans and nonhumans, rich people and poor, women and men, First Worlders and Third Worlders, white folks and people of color, consumers and producers—a world better for humanity in all of its diversity and for all the rest of nature too. The middle ground is where we actually live. It is where we—all of us, in our different places and ways—make our homes.

That is why, when I think of the times I myself have come closest to experiencing what I might call the sacred in nature, I often find myself remembering wild places much closer to home. I think, for instance, of a small pond near my house where water bubbles up from limestone springs to feed a series of pools that rarely freeze in winter and so play home to waterfowl that stay here for the protective warmth even on the coldest of winter days, gliding silently through streaming mists as the snow falls from gray February skies. I think of a November evening long ago when I found myself on a Wisconsin hilltop in rain and dense fog, only to have the setting sun break through the clouds to cast an otherworldly golden light on the misty farms and woodlands below, a scene so unexpected and joyous that I lingered past dusk so as not to miss any part of the gift that had come my way. And I think perhaps most especially of the blown-out, bankrupt farm in the sand country of central Wisconsin where Aldo Leopold and his family tried one of the first American experiments in ecological restoration, turning ravaged and infertile soil into carefully tended ground where the human and the nonhuman could exist side by side in relative harmony. What I celebrate about such places is not just their wildness, though that certainly is among their most important qualities; what I

celebrate even more is that they remind us of the wildness in our own backyards, of the nature that is all around us if only we have eyes to see it.

Indeed, my principal objection to wilderness is that it may teach us to be dismissive or even contemptuous of such humble places and experiences. Without our quite realizing it, wilderness tends to privilege some parts of nature at the expense of others. Most of us, I suspect, still follow the conventions of the romantic sublime in finding the mountaintop more glorious than the plains, the ancient forest nobler than the grasslands, the mighty canyon more inspiring than the humble marsh. Even John Muir, in arguing against those who sought to dam his beloved Hetch Hetchy valley in the Sierra Nevada, argued for alternative dam sites in the gentler valleys of the foothills—a preference that had nothing to do with nature and everything with the cultural traditions of the sublime. (38) Just as problematically, our frontier traditions have encouraged Americans to define "true" wilderness as requiring very large tracts of roadless land—what Dave Foreman calls "The Big Outside." Leaving aside the legitimate empirical question in conservation biology of how large a tract of land must be before a given species can reproduce on it, the emphasis on big wilderness reflects a romantic frontier belief that one hasn't really gotten away from civilization unless one can go for days at a time without encountering another human being. By teaching us to fetishize sublime places and wide open country, these peculiarly American ways of thinking about wilderness encourage us to adopt too high a standard for what counts as "natural." If it isn't hundreds of square miles big, if it doesn't give us God's eye views or grand vistas, if it doesn't permit us the illusion that we are alone on the planet, then it really isn't natural. It's too small, too plain, or too crowded to be authentically wild.

In critiquing wilderness as I have done in this essay, I'm forced to confront my own deep ambivalence about its meaning for modern environmentalism. On the one hand, one of my own most important environmental ethics is that people should always be conscious that they are part of the natural world, inextricably tied to the ecological systems that sustain their lives. Any way of looking at nature that encourages us to believe we are separate from nature—as wilderness tends to do—is likely to reinforce environmentally irresponsible behavior. On the other band, I also think it no less crucial for us to recognize and honor nonhuman nature as a world we did not create, a world with its own independent, nonhuman reasons for being as it is. The autonomy of nonhuman nature seems to me an indispensable corrective to human arrogance. Any way of looking at nature that helps us remember—as wilderness also tends to do—that the interests of people are not necessarily identical to those of every other creature or of the earth itself is likely to foster responsible behavior. To the extent that wilderness has served as an important vehicle for articulating deep mom values regarding our obligations and responsibilities to the nonhuman world, I would not want to jettison the contributions it has made to our culture's ways of thinking about nature.

If the core problem of wilderness is that it distances us too much from the very things it teaches us to value, then the question we must ask is what it can tell us about home, the place where we actually live. How can we take the positive values we associate with wilderness and bring them closer to home? I think the answer to this question will come by broadening our sense of the otherness that wilderness seeks to define and protect. In reminding us of the world we did not make, wilderness can teach profound feelings of humility and respect as we confront our fellow beings and the earth itself Feelings like these argue for the importance of self-awareness and self criticism as we exercise our own ability to transform the world around us, helping us set responsible limits to human mastery—which without such limits too easily becomes human hubris.

Wilderness is the place where, symbolically at least, we try to withhold our power to dominate. Wallace Stegner once wrote of the special human mark, the special record of human passage, that distinguishes man from all other species. It is rare enough among men, impossible to any other form of life. It is simply the deliberate and chosen refusal to make any marks at all.... We are the most dangerous

species of life on the planet, and every other species, even the earth itself, has cause to fear our power to exterminate. But we are also the only species which, when it chooses to do so, will go to great effort to save what it might destroy. (39)

The myth of wilderness, which Stegner knowingly reproduces in these remarks, is that we can somehow leave nature untouched by our passage. By now it should be clear that this for the most part is an illusion. But Stegner's deeper message then becomes all the more compelling. If living in history means that we cannot help leaving marks on a fallen world, then the dilemma we face is to decide what kinds of marks we wish to leave. It is just here that our cultural traditions of wilderness remain so important. In the broadest sense, wilderness teaches us to ask whether the Other must always bend to our will, and, if not, under what circumstances it should be allowed to flourish without our intervention. This is surely a question worth asking about everything we do, and not just about the natural world.

When we visit a wilderness area, we find ourselves surrounded by plants and animals and physical landscapes whose otherness compels our attention. In forcing us to acknowledge that they are not of our making, that they have little or no need of our continued existence, they recall for us a creation far greater than our own. In the wilderness, we need no reminder that a tree has its own reasons for being, quite apart from us. The same is less true in the gardens we plant and tend ourselves: there it is far easier to forget the otherness of the tree. (40) Indeed, one could almost measure wilderness by the extent to which our recognition of its otherness requires a conscious, willed act on our part. The romantic legacy means that wilderness is more a state of mind than a fact of nature, and the state of mind that today most defines wilderness is wonder. The striking power of the wild is that wonder in the face of it requires no act of will, but forces itself upon us—as an expression of the nonhuman world experienced through the lens of our cultural history—as proof that ours is not the only presence in the universe.

Wilderness gets us into trouble only if we imagine that this experience of wonder and otherness is limited to the remote corners of the planet, or that it somehow depends on pristine landscapes we ourselves do not inhabit. Nothing could be more misleading. The tree in the garden is in reality no less other, no less worthy of our wonder and respect, than the tree in an ancient forest that has never known an ax or a saw—even though the tree in the forest reflects a more intricate web of ecological relationships. The tree in the garden could easily have sprung from the same seed as the tree in the forest, and we can claim only its location and perhaps its form as our own. Both trees stand apart from us; both share our common world. The special power of the tree in the wilderness is to remind us of this fact. It can teach us to recognize the wildness we did not see in the tree we planted in our own backyard. By seeing the otherness in that which is most unfamiliar, we can learn to see it too in that which at first seemed merely ordinary. If wilderness can do this—if it can help us perceive and respect a nature we had forgotten to recognize as natural—then it will become part of the solution to our environmental dilemmas rather than part of the problem.

This will only happen, however, if we abandon the dualism that sees the tree in the garden as artificial—completely fallen and unnatural—and the tree in the wilderness as natural—completely pristine and wild. Both trees in some ultimate sense are wild; both in a practical sense now depend on our management and care. We are responsible for both, even though we can claim credit for neither. Our challenge is to stop thinking of such things according to set of bipolar moral scales in which the human and the nonhuman, the unnatural and the natural, the fallen and the unfallen, serve as our conceptual map for understanding and valuing the world. Instead, we need to embrace the full continuum of a natural landscape that is also cultural, in which the city, the suburb, the pastoral, and the wild each has its proper place, which we permit ourselves to celebrate without needlessly denigrating the others. We need to honor the Other within and the Other next door as much as we do the exotic Other that lives far away—a lesson that applies as much to people as it does to (other) natural things. In particular, we need to discover a common middle ground in

which all of these things, from the city to the wilderness, can somehow be encompassed in the word "home." Home, after all, is the place where finally we make our living. It is the place for which we take responsibility, the place we try to sustain so we can pass on what is best in it (and in ourselves) to our children. (41)

The task of making a home in nature is what Wendell Berry has called "the forever unfinished lifework of our species." "The only thing we have to preserve nature with" he writes, "is culture; the only thing we have to preserve wildness with is domesticity." (42) Calling a place home inevitably means that we will use the nature we find in it, for there can be no escape from manipulating and working and even killing some parts of nature to make our home. But if we acknowledge the autonomy and otherness of the things and creatures around us—an autonomy our culture has taught us to label with the word "wild"—then we will at least think carefully about the uses to which we put them, and even ask if we should use them at all. just so can we still join Thoreau in declaring that "in Wildness is the preservation of the World," for wildness (as opposed to wilderness) can be found anywhere: in the seemingly tame fields and woodlots of Massachusetts, in the cracks of a Manhattan sidewalk, even in the cells of our own bodies. As Gary Snyder has wisely said, "A person with a clear heart and open mind can experience the wilderness anywhere on earth. It is a quality of one's own consciousness. The planet is a wild place and always will be." (43) To think ourselves capable of causing "the end of nature" is an act of great hubris, for it means forgetting the wildness that dwells everywhere within and around us.

Learning to honor the wild—learning to remember and acknowledge the autonomy of the other—means striving for critical self-consciousness in all of our actions. It means the deep reflection and respect must accompany each act of use, and means too that we must always consider the possibility of non-use. It means looking at the part of nature we intend to turn toward our own ends and asking whether we can use it again and again and again—sustainably—without its being diminished in the process. It means never imagining that we can flee into a mythical wilderness to escape history and the obligation to take responsibility for our own actions that history inescapably entails. Most of all, it means practicing remembrance and gratitude, for thanksgiving is the simplest and most basic of ways for us to recollect the nature, the culture, and the history that have come together to make the world as we know it. If wildness can stop being (just) out there and start being (also) in here, if it can start being as humane as it is natural, then perhaps we can get on with the unending task of struggling to live rightly in the world—not just in the garden, not just in the wilderness, but in the home that encompasses them both.

Confessions of a Recovering Environmentalist by Paul Kingsnorth

'Some see Nature all ridicule and deformity – and some scarce see Nature at all. But to the eyes of the man of imagination, Nature is imagination itself.' – William Blake

Scenes from a younger life 1:

I am twelve years old. I am alone, I am scared, I am cold and I am crying my eyes out. I can't see more than six feet in either direction. I am on some godforsaken moor high up on the dark, ancient, poisonous spine of England. The black bog juice I have been trudging through for hours has long since crept over the tops of my boots and down into my socks. My rucksack is too heavy, I am unloved and lost and I will never find my way home. It is raining and the cloud is punishing me; clinging to me, laughing at me. Twenty five years later, I still have a felt memory of that experience and its emotions: a real despair and a terrible loneliness.

I do find my way home; I manage to keep to the path and eventually catch up with my father, who has the map and the compass and the mini Mars bars. He was always there, somewhere up ahead, but he had decided it would be good for me to 'learn to keep up' with him. All of this, he tells me, will make me into a man. Needless to say, it didn't work.

Only later do I realise the complexity of the emotions summoned by a childhood laced with experiences like this. My father was a compulsive long-distance walker. Every year, throughout my most formative decade, he would take me away to Cumbria or Northumberland or Yorkshire or Cornwall or Pembrokeshire or the Welsh marches, and we would walk, for weeks. We would follow ancient tracks or new trails, across mountains and moors and ebony black cliffs. Much of the time we would be alone with each other and with our thoughts and our conversations, and we would be alone with the oystercatchers, the gannets, the curlews, the skylarks and the owls. With the gale and the breeze, with our maps and compasses and emergency rations and bivvy bags and plastic bottles of water. We would camp in the heather, by cairns and old mine shafts, hundreds of feet above the orange lights of civilisation, and I would dream. And in the morning, with dew on the tent and cold air in my face as I opened the zip, the wild elements of life, all of the real things, would all seem to be there, waiting for me with the sunrise.

Scenes from a younger life 2:

I am nineteen years old. It is around midnight and I am on the summit of a low, chalk down, the last of the long chain that wind their way through through the crowded, peopled, fractious South Country. There are maybe fifty or sixty people there with me. There is a fire going, there are guitars, there is singing and weird and unnerving whooping noises from some of the ragged travellers who have made this place their home.

This is Twyford Down, a hilltop east of Winchester. There is something powerful about this place; something ancient and unanswering. Soon it is to be destroyed: a six lane motorway will be driven through it in a deep chalk cutting. It is vital that this should happen in order to reduce the journey time of travellers between London and Southampton by a full thirteen minutes. The people up here have made it their home in a doomed attempt to stop this happening.

From outside it is impossible to see, and most do not want to. The name-calling has been going on for months, in the papers and the pubs and in the House of Commons. The people here are Luddites, Nimbies, reactionaries, romantics. They are standing in the way of progress. They will not be tolerated. Inside, there is a sense of shared threat and solidarity, there are blocks of hash and packets of Rizlas and litres of bad cider. We know what we are here for. We know what we are doing. We can feel the reason in the soil and in the night air. Down there, under the lights and behind the curtains, there is no chance that they will ever understand. We are on our own.

Someone I don't know suggests we dance the maze. Out beyond the firelight, there is a maze carved into the down's soft, chalk turf. I don't know if it's some ancient monument or a new creation. Either way, it's the same spiral pattern that can be found carved in rocks from millennia ago. With cans and cigarettes and spliffs in our hands, a small group of us start to walk the maze, laughing, staggering, then breaking into a run, singing, spluttering, stumbling together towards the centre.

Scenes from a younger life 3:

I am twenty one years old and I've just spent the most exciting two months of my life so far in an Indonesian rainforest. I've just been on one of those organised expeditions that people of my age buy into to give them the chance to do something useful and exciting in what used to be called the 'Third World', I've prepared for months for this. I've sold double glazing door-to-door to scrape the cash together. I have been reading Bruce Chatwin and Redmond O'Hanlon and Benedict Allen and my head is full of magic and idiocy and wonder.

During my trip, there were plenty of all of these things. I still vividly remember klotok journeys up Borneo rivers by moonlight, watching the swarms of giant fruitbats overhead. I remember the hooting of gibbons and the search for hornbills high up in the rainforest canopy. I remember a four day trek through a so-called 'rain' forest that was so dry we ended up drinking filtered mud. I remember turtle eggs on the beaches of Java and young orangutans at the rehabilitation centre where we worked in Kalimantan, sitting in the high branches of trees with people's stolen underpants on their heads,

laughing at us. I remember the gold miners and the loggers, and the freshwater crocodiles in the same river we swam in every morning. I remember my first sight of flying fish in the Java Sea.

And I remember the small islands north of Lombok where some of us spent a few days before we came home. At night we would go down to the moonlit beach, where the sea and the air would still be warm, and in the sea were millions of tiny lights: phosphorescence. I had never seen this before; never even heard of it. We would walk into the water and immerse ourselves and rise up again and the lights would cling to our bodies, fading away as we laughed.

Now, back home, the world seems changed. A two month break from my country, my upbringing, my cultural assumptions, a two month immersion in something far more raw and unmediated, has left me open to seeing this place as it really is. I see the atomisation and the inward focus and the faces of the people in a hurry on the other side of windscreens. I see the streetlights and the asphalt as I had not quite seen them before. What I see most of all are the adverts.

For the first time, I realise the extent and the scope and the impacts of the billboards, the posters, the TV and radio ads. Everywhere an image, a phrase, a demand or a recommendation is screaming for my attention, trying to sell me something, tell me who to be, what to desire and to need. And this is before the internet; before apples and blackberries became indispensable to people who wouldn't know where to pick the real thing; before the deep, accelerating immersion of people in their technologies, even outdoors, even in the sunshine. Compared to where I have been, this world is so tamed, so mediated and commoditised, that something within it seems to have broken off and been lost beneath the slabs. No one has noticed this, or says so if they have. Something is missing: I can almost see the gap where it used to be. But it is not remarked upon. Nobody says a thing.

It is 9.30 at night in mid-December at the end of the first decade of the 21st century. I step outside my front door into the farmyard and I walk over to the track, letting my eyes adjust to the dark. I am lucky enough to be living among the Cumbrian fells now, and as my pupils widen I can see, under a clear, starlit sky, the outline of the Old Man of Coniston, Dow Crag, Wetherlam, Helvellyn, the Fairfield horseshoe. I stand there for ten minutes, growing colder. I see two shooting stars and a satellite. I suddenly wish my dad was still alive and I wonder where the magic has gone.

These experiences, and others like them, were what formed me. They were what made me what I would later learn to call an 'environmentalist': something which seemed rebellious and excitingly outsiderish when I first took it up (and which successfully horrified my social climbing father, especially as it was partly his fault) but which these days is almost de rigeur amongst the British bourgeoisie. Early in my adult life, just after I came back from Twyford Down, I vowed, self-importantly, that this would be my life's work: saving nature from people. Preventing the destruction of beauty and brilliance, speaking up for the small and the overlooked and the things that could not speak for themselves. When I look back on this now, I'm quite touched by my younger self. I would like to be him again, perhaps just for a day; someone to whom all sensations are fiery and all answers are simple.

All of this – the downs, the woods, the rainforest, the great oceans and, perhaps most of all, the silent isolation of the moors and mountains, which at the time seemed so hateful and unremitting – took hold of me somewhere unexamined. The relief I used to feel on those long trudges with my dad when I saw the lights of a village or a remote pub, even a minor road or a pylon; any sign of humanity – as I grow older this is replaced by the relief of escaping from the towns and the villages, away from the pylons and the pubs and the people, up onto the moors again, where only the ghosts and the saucer-eyed dogs and the old legends and the wind can possess me.

But they are harder to find now, those spirits. I look out across the moonlit Lake District ranges and it's as clear as the night air that what used to come in regular waves, pounding like the sea, comes now only in flashes, out of the corner of my eyes, like a lighthouse in a storm. Perhaps it's the way the world has

changed. There are more cars on the roads now, more satellites in the sky. The footpaths up the fells are like stone motorways, there are turbines on the moors and the farmers are being edged out by south country refugees like me, trying to escape but bringing with us the things we flee from. The new world is online and loving it, the virtual happily edging out the actual. The darkness is shut out and the night grows lighter and nobody is there to see it.

It could be all that, but it probably isn't. It's probably me. I am 37 now. The world is smaller, more tired, more fragile, more horribly complex and full of troubles. Or, rather: the world is the same as it ever was, but I am more aware of it and of the reality of my place within it. I have grown up, and there is nothing to be done about it. The worst part of it is that I can't seem to look without thinking anymore. And now I know far more about what we are doing. We: the people. I know what we are doing, all over the world, to everything, all of the time. I know why the magic is dying. It's me. It's us.

I became an 'environmentalist' because of a strong emotional reaction to wild places and the other-than-human world: to beech trees and hedgerows and pounding waterfalls, to songbirds and sunsets, to the flying fish in the Java Sea and the canopy of the rainforest at dusk when the gibbons come to the waterside to feed. From that reaction came a feeling, which became a series of thoughts: that such things are precious for their own sake, that they are food for the human soul and that they need people to speak for them to, and defend them from, other people, because they cannot speak our language and we have forgotten how to speak theirs. And because we are killing them to feed ourselves and we know it and we care about it, sometimes, but we do it anyway because we are hungry, or we have persuaded ourselves that we are.

But these are not, I think, very common views today. Today's environmentalism is as much a victim of the contemporary cult of utility as every other aspect of our lives, from science to education. We are not environmentalists now because we have an emotional reaction to the wild world. In this country, most of us wouldn't even know where to find it. We are environmentalists now in order to promote something called 'sustainability'. What does this curious, plastic word mean? It does not mean defending the non-human world from the ever-expanding empire of Homo sapiens sapiens, though some of its adherents like to pretend it does, even to themselves. It means sustaining human civilisation at the comfort level which the world's rich people – us – feel is their right, without destroying the 'natural capital' or the 'resource base' which is needed to do so.

It is, in other words, an entirely human-centred piece of politicking, disguised as concern for 'the planet'. In a very short time – just over a decade – this worldview has become all-pervasive. It is voiced by the President of the USA and the President of Anglo-Dutch Shell and many people in-between. The success of environmentalism has been total – at the price of its soul.

Let me offer up just one example of how this pact has worked. If 'sustainability' is about anything, it is about carbon. Carbon and climate change. To listen to most environmentalists today, you would think that these were the only things in the word worth talking about. The business of 'sustainability' is the business of preventing carbon emissions. Carbon emissions threaten a potentially massive downgrading of our prospects for material advancement as a species. They threaten to unacceptably erode our resource base and put at risk our vital hoards of natural capital. If we cannot sort this out quickly, we are going to end up darning our socks again and growing our own carrots and holidaying in Weston-super-Mare and other such unthinkable things. All of the horrors our grandparents left behind will return like deathless legends. Carbon emissions must be 'tackled' like a drunk with a broken bottle: quickly, and with maximum force.

Don't get me wrong: I don't doubt the potency of climate change to undermine the human machine. It looks to me as if it is already beginning to do so, and that it is too late to do anything but attempt to mitigate the worst effects. But what I am also convinced of is that the fear of losing both the comfort and the meaning that our civilisation gifts us has gone to the heads of environmentalists to such a degree that they have forgotten everything else. The

carbon must be stopped, like the Umayyad at Tours, or all will be lost.

This reductive approach to the human-environmental challenge leads to an obvious conclusion: if carbon is the problem, then 'zero-carbon' is the solution. Society needs to go about its business without spewing the stuff out. It needs to do this quickly, and by any means necessary. Build enough of the right kind of energy technologies, quickly enough, to generate the power we 'need' without producing greenhouse gases and there will be no need to ever turn the lights off; no need to ever slow down.

To do this will require the large-scale harvesting of the planet's ambient energy: sunlight, wind, water power. This means that vast new conglomerations of human industry are going to appear in places where this energy is most abundant. Unfortunately, these places coincide with some of the world's wildest, most beautiful and most untouched landscapes. The sort of places which environmentalism came into being to protect.

And so the deserts, perhaps the landscape always most resistant to permanent human conquest, are to be colonised by vast 'solar arrays', glass and steel and aluminium, the size of small countries. The mountains and moors, the wild uplands, are to be staked out like vampires in the sun, their chests pierced with rows of 500 foot wind turbines and associated access roads, masts, pylons and wires. The open oceans, already swimming in our plastic refuse and emptying of marine life, will be home to enormous offshore turbine ranges and hundreds of wave machines strung around the coastlines like Victorian necklaces. The rivers are to see their estuaries severed and silted by industrial barrages. The croplands and even the rainforests, the richest habitats on this terrestrial Earth, are already highly profitable sites for biofuel plantations designed to provide guilt free car fuel to the motion-hungry masses of Europe and America.

What this adds up to should be clear enough, yet many people who should know better choose not to see it. This is business-as-usual: the expansive, colonising, progressive human narrative, shorn only of the carbon. It is the latest phase of our careless, self-absorbed, ambition-addled destruction of the wild, the unpolluted and the non-human. It is the mass destruction of the world's remaining wild places in order to feed the human economy. And without any sense of irony, people are calling this 'environmentalism'.

A while back I wrote an article in a newspaper highlighting the impact of industrial wind power stations (which are usually referred to, in a nice Orwellian touch, as wind 'farms') on the uplands of Britain. I was emailed the next day by an environmentalist friend who told me he hoped I was feeling ashamed of myself. I was wrong; worse, I was dangerous. What was I doing giving succour to the fossil fuel industry? Didn't I know that climate change would do far more damage to upland landscapes than turbines? Didn't I know that this was the only way to meet our urgent carbon targets? Didn't I see how beautiful turbines were? So much more beautiful than nuclear power stations. I might think that a 'view' was more important than the future of the entire world, but this was because I was a middle class escapist who needed to get real.

It became apparent at that point that what I saw as the next phase of the human attack on the non-human world, a lot of my environmentalist friends saw as 'progressive', 'sustainable' and 'green'. What I called destruction they called 'large scale solutions'. This stuff was realistic, necessarily urgent. It went with the grain of human nature and the market, which as we now know are the same thing. We didn't have time to 'romanticise' the woods and the hills. There were emissions to reduce, and the end justified the means.

It took me a while to realise where this kind of talk took me back to: the maze and the moonlit hilltop. This desperate scrabble for 'sustainable development' – in reality it was the same old same old. People I had thought were on my side were arguing aggressively for the industrialising of wild places in the name of human desire. This was the same rootless, distant destruction that had led me to the top of Twyford Down. Only now there seemed to be some kind of crude equation at work that allowed them to believe this was something entirely

different. Motorway through downland: bad. Wind power station on downland: good. Container port wiping out estuary mudflats: bad. Renewable hydro-power barrage wiping out estuary mudflats: good. Destruction minus carbon equals sustainability.

So here I was again: a Luddite, a Nimby, a reactionary, a romantic; standing in the way of progress. I realised that I was dealing with environmentalists with no attachment to any actual environment. Their talk was of parts per million of carbon, peer reviewed papers, sustainable technologies, renewable supergrids, green growth and the fifteenth conference of the parties. There were campaigns about 'the planet' and 'the Earth', but there was no specificity: no sign of any real, felt attachment to any small part of that Earth.

Back at university, in love with my newfound radicalism, as students tend to be, I started to read things. Not the stuff I was supposed to be reading about Lollards and Wycliffe and pre-reformation Europe, but green political thought: wild ideas I had never come across before. I could literally feel my mind levering itself open. Most exciting to me were the implications of a new word I stumbled across: ecocentrism. This word crystallised everything I had been feeling for years. I had no idea there were words for it or that other people felt it too, or had written intimidating books about it. The nearest I had come to such a realisation thus far was reading Wordsworth in the sixth form and feeling an excited tingling sensation as I began to understand what he was getting at amongst all those poems about shepherds and girls called Lucy. Here was a kindred spirit! Here was a man moved to love and fear by mountains, who believed rocks had souls, that 'Nature never did betray the heart that loved her' (though even then that sounded a little optimistic to me). Pantheism was my new word that year.

Now I declared, to myself if no one else, that I was 'ecocentric' too. This was not the same as being egocentric, though some disagreed, and though it sounded a bit too much like 'eccentric' this was also a distraction. I was ecocentric because I did not believe – had never believed, I didn't think – that humans were the centre of the world, that the Earth was their playground, that they had the right to do what they liked or even that what they did was that important. I thought we were part of something bigger, which had as much to right to the world as we did and which we were stomping on for our own benefit. I had always been haunted by shameful thoughts like this. It had always seemed to me that the beauty to be found on the trunk of a birch tree was worth any number of Mona Lisas, and that a Saturday night sunset was better than Saturday night telly. It had always seemed that most of what mattered to me could not be counted or corralled by the kind of people who thought, and still think, that I just needed to grow up.

It had been made clear to me for a long time that these feelings were at best charmingly naïve and at worst backwards and dangerous. Later, the dismissals became encrusted with familiar words, designed to keep the ship of human destiny afloat: Romantic, Luddite, nimby and the like. For now, though, I had found my place. I was a young, fiery, radical, ecocentric environmentalist and I was going to save the world.

When I look back on the road protests of the mid-1990s, which I often do, it is with nostalgia and fondness and a sense of gratitude that I was able to be there, to see what I saw and do what I did. But I realise now that it is more than this that makes me think and talk and write about Twyford Down and Newbury and Solsbury Hill to an extent which bores even my patient friends. This, I think, was the last time I was part of an environmental movement that was genuinely environmental. The people involved were, like me, ecocentric: they didn't see 'the environment' as something 'out there'; separate from people, to be utilised or destroyed or protected according to human whim. They saw themselves as part of it, within it, of it.

There was a Wordsworthian feel to the whole thing: the defence of the trees simply because they were trees. Living under the stars and in the rain, in the oaks and in the chaotic, miraculous tunnels beneath them, in the soil itself like the rabbits and the badgers. We were connected to a place; a real place that we loved and had made a choice to belong to, if only for a short time. There was little theory, much action but even more simple being. Being in a place,

knowing it, standing up for it. It was environmentalism at its rawest, and the people who came to be part of it were those who loved the land, in their hearts as well as their heads.

In years to come, this was worn away. It took a while before I started to notice what was happening, but when I did it was all around me. The ecocentrism – in simple language, the love of place, the humility, the sense of belonging, the feelings – was absent from most of the 'environmentalist' talk I heard around me. Replacing it were two other kinds of talk. One was the save-the-world-with-windfarms narrative; the same old face in new makeup. The other was a distant, sombre sound: the marching boots and rattling swords of an approaching fifth column.

Environmentalism, which in its raw, early form had no time for the encrusted, seized-up politics of left and right, offering instead a worldview which saw the growth economy and the industrialist mentality beloved by both as the problem in itself, was being sucked into the yawning, bottomless chasm of the 'progressive' left. Suddenly people like me, talking about birch trees and hilltops and sunsets, were politely, or less politely, elbowed to one side by people who were bringing a 'class analysis' to green politics.

All this talk of nature, it turned out, was bourgeois, Western and unproductive. It was a middle class conceit, and there was nothing worse than a middle class conceit. The workers had no time for thoughts like this (though no one bothered to notify the workers themselves that they were simply clodhopping, nature-loathing cannon fodder in a political flame war). It was terribly, objectively right wing. Hitler liked nature after all. He was a vegetarian too. It was all deeply 'problematic'.

More problematic for me was what this kind of talk represented. With the near global failure of the left wing project over the past few decades, green politics was fast becoming a refuge for disillusioned socialists, Trots, Marxists and a ragbag of fellow travellers who could no longer believe in communism or the Labour party or even George Galloway, and who saw in green politics a promising bolthole. In they all trooped, with their Stop The War banners and their Palestinian solidarity scarves, and with them they brought a new sensibility.

Now it seemed that environmentalism was not about wildness or ecocentrism or the other-than-human world and our relationship to it. Instead it was about (human) social justice and (human) equality and (human) progress and ensuring that all these things could be realised without degrading the (human) resource base which we used to call nature back when we were being naÃ¨ve and problematic. Suddenly, never-ending economic growth was a good thing after all: the poor needed it to get rich, which was their right. To square the circle, for those who still realised there was a circle, we were told that '(human) social justice and environmental justice go hand in hand' – a suggestion of such bizarre inaccuracy that it could surely only be wishful thinking.

Suddenly, sustaining a global human population of ten billion people was not a problem at all, and anyone who suggested otherwise was not highlighting any obvious ecological crunch points but was giving succour to fascism or racism or gender discrimination or orientalism or essentialism or some other such hip and largely unexamined concept. The 'real issue', it seemed, was not the human relationship with the non-human world; it was fat cats and bankers and cap'lism. These things must be destroyed, by way of marches, protests and votes for fringe political parties, to make way for something known as 'eco-socialism': a conflation of concepts that pretty much guarantees the instant hostility of 95% of the population.

I didn't object to this because I thought that environmentalism should occupy the right rather than the left wing, or because I was right-wing myself, which I wasn't (these days I tend to consider the entire bird with a kind of frustrated detachment). And I understood that there was at least a partial reason for the success of this colonisation of the greens by the reds. Modern environmentalism sprung partly from the early twentieth century conservation movement, and that movement had often been about preserving supposedly pristine landscapes at the expense of people. Forcing tribal people from their ancestral lands which had been newly designated as national parks, for example, in order to create a

fictional 'untouched nature' had once been fairly common, from Africa to the USA. And actually, Hitler had been something of an environmentalist, and the wellsprings which nourished some green thought nourished the thought of some other unsavoury characters too (a fact which some ideologues love to point to when witch-hunting the greens, as if it wouldn't be just as easy to point out that ideas of equality and justice fuelled Stalin and Pol Pot).

In this context it was fair enough to make it clear that environmentalism allied itself with ideas of justice and decency, and that it was about people as well as everything else on the planet. Of course it was, for 'nature' as something separate from people has never existed. We are nature, and the environmentalist project was always supposed to be about how we are to be part of it, to live well as part of it, to understand and respect it, to understand our place within it and to feel it as part of ourselves.

So there was a reason for environmentalism's shift to the left, just as there was a reason for its blinding obsession with carbon. Meanwhile, the fact of what humans are doing to the world had become so obvious, even to those who were doing very well out of it, that it became hard not to listen to the greens. Success duly arrived. You can't open a newspaper now or visit a corporate website or listen to a politician or read the label on a packet of biscuits without being bombarded with propaganda about the importance of 'saving the planet'. But there is a terrible hollowness to it all; a sense that society is going through the motions without understanding why. The shift, the pact, has come at a probably fatal price.

Now that price is being paid. The weird and unintentional pincer movement of the failed left, with its class analysis of waterfalls and fresh air, and the managerial, carbon-uber-alles brigade has infiltrated, ironed out and reworked environmentalism for its own ends. Now it is not about the ridiculous beauty of coral, the mist over the fields at dawn. It is not about ecocentrism. It is not about reforging a connection between over-civilised people and the world outside their windows. It is not about living close to the land or valuing the world for the sake of the world. It is not about attacking the self-absorbed conceits of the bubble that our civilisation has become.

Today's environmentalism is about people. It is a consolation prize for a gaggle of washed-up Trots and at the same time, with an amusing irony, it is an adjunct to hyper-capitalism; the catalytic converter on the silver SUV of the global economy. It is an engineering challenge; a problem-solving device for people to whom the sight of a wild Pennine hilltop on a clear winter day brings not feelings of transcendence but thoughts about the wasted potential for renewable energy. It is about saving civilisation from the results of its own actions; a desperate attempt to prevent Gaia from hiccupping and wiping out our coffee shops and broadband connections. It is our last hope.

I generalise, of course. Environmentalism's chancel is as accommodating as that of socialism, anarchism or conservatism, and just as capable of generating poisonous internal bickering that will last until the death of the sun. Many who call themselves green have little time for the mainstream line I am attacking here. But it is the mainstream line. It is how most people see environmentalism today, even if it is not how all environmentalists intend it to be seen. These are the arguments and the positions that popular environmentalism ' now a global force ' offers up in its quest for redemption. There are reasons; there are always reasons. But whatever they are, they have led the greens down a dark, litter-strewn dead end street, where the bins overflow, the lightbulbs have blown and the stray dogs are very hungry indeed.

What is to be done about this? Probably nothing. It was perhaps inevitable that a utilitarian society would generate a utilitarian environmentalism, and inevitable too that the greens would not be able to last for long outside the established political bunkers. But for me, now ' well, this is no longer mine, that's all. I can't make my peace with people who cannibalise the land in the name of saving it. I can't speak the language of science without a corresponding poetry. I can't speak with a straight face about saving the planet when what I really mean is saving myself from what is coming.

Like all of us, I am a footsoldier of empire. It is the empire of Homo sapiens sapiens and it stretches from Tasmania to Baffin Island. Like all empires it is built on expropriation and exploitation, and like all empires it dresses these things up in the language of morality and duty. When we turn wilderness over to agriculture we speak of our duty to feed the poor. When we industrialise the wild places we speak of our duty to stop the climate from changing. When we spear whales we speak of our duty to science. When we raze forests we speak of our duty to develop. We alter the atmospheric makeup of the entire world: half of us pretends it's not happening, the other half immediately starts looking for new machines that will reverse it. This is how empires work, particularly when they have started to decay. Denial, displacement, anger, fear.

The environment is the victim of this empire. But 'the environment' – that distancing word, that empty concept – does not exist. It is the air, the waters, the creatures we make homeless or lifeless in flocks and legions, and it is us too. We are it; we are in it and of it, we make it and live it, we are fruit and soil and tree, and the things done to the roots and the leaves come back to us. We make ourselves slaves to make ourselves free, and when the shackles start to rub we confidently predict the emergence of new, more comfortable designs.

I don't have any answers, if by answers we mean political systems, better machines, means of engineering some grand shift in consciousness. All I have is a personal conviction built on those feelings, those responses, that goes back to the moors of northern England and the rivers of southern Borneo – that something big is being missed. That we are both hollow men and stuffed men, and that we will keep stuffing ourselves until the food runs out and if outside the dining room door we have made a wasteland and called it necessity, then at least we will know we were not to blame, because we are never to blame, because we are the humans.

What am I to do with feelings like these? Useless feelings in a world in which everything must be made useful. Sensibilities in a world of utility. Feelings like this provide no 'solutions'. They build no new eco-homes, remove no carbon from the atmosphere. This is head-in-the-clouds stuff, as relevant to our busy, modern lives as the new moon or the date of Lughnasadh. Easy to ignore, easy to dismiss, like the places that inspire the feelings, like the world outside the bubble, like the people who have seen it, if only in brief flashes beyond the ridge of some dark line of hills.

But this is fine; the dismissal, the platitudes, the brusque moving-on of the grown-ups. It's all fine. I withdraw, you see. I withdraw from the campaigning and the marching, I withdraw from the arguing and the talked-up necessity and all of the false assumptions. I withdraw from the words. I am leaving. I am going to go out walking.

I am leaving on a pilgrimage to find what I left behind in the jungles and by the cold campfires and in the parts of my head and my heart that I have been skirting around because I have been busy fragmenting the world in order to save it; busy believing it is mine to save. I am going to listen to the wind and see what it tells me, or whether it tells me anything at all. You see, it turns out that I have more time than I thought. I will follow the songlines and see what they sing to me and maybe, one day, I might even come back. And if I am very lucky I might bring with me a harvest of fresh tales which I can scatter like apple seeds across this tired and angry continent.

Should Species Be Allowed to Die Out? by Jennifer Kahn

from New York Times Magazine

One day last spring, Lisa Crampton stood at the base of a tall ohia tree, deep in the forested interior of Kauai. That morning, Crampton and five other field biologists had spent two hours hiking to a narrow clearing, where a hovering helicopter airdropped a large aluminum ladder. Although the distance from the clearing to the tree was comparatively short, it took the team most of the morning to maneuver the ladder across a stream, through the brush and up a

steep slope. During that time, it also started to rain.

Ohia trees are tall and spindly, with a flowering red crown that spreads out in twiggy filaments. The object of the team's efforts was a scraggly nest, about two inches wide, that was gusting around at the end of a branch four stories overhead. Peering up at it, Crampton frowned. "It's pretty high up," she said. "Do you think we can get the ladder close enough on this slope?"

The nest belonged to an akikiki, a small gray-and-white bird that feeds on insects, doesn't sing much and has noticeably large feet. As head of the Kauai Forest Bird Recovery Project, Crampton is tasked with saving the akikiki, along with the rest of the island's endangered birds. Even by conservation standards, this can be dispiriting work. Of Kauai's eight remaining native forest birds, four are listed as endangered or threatened, including a honeycreeper so rare that researchers have managed to find just 14 of its eggs in three years, of which only four have survived.

When Crampton took over the program, in 2010, it was focused on protecting a reclusive bird known as the small Kauai thrush, which had been on the verge of extinction for years. Not long after she arrived, though, the situation changed. While thrush numbers were up, thanks in part to a successful captive-breeding program, the number of akikiki had plummeted. "The surveys weren't picking up any akikiki," Crampton told me, "like, none."

Because akikiki numbers dropped so rapidly — the population is estimated to have fallen by 83 percent in 10 years, thanks to a combination of avian malaria and invasive rats, leaving just 468 birds — the government approved a plan to start a captive-breeding program in 2015, using eggs harvested from nests in the wild. (When akikiki lose their eggs, they typically lay a second clutch, keeping population numbers stable.) Mandy Peterson, who has a master's degree in ecology and is doing fieldwork with the recovery project, told me about a prop Crampton's team often takes to island schools: a pint glass filled with 500 synthetic akikiki eggs, each the size of a small gumball. "We show them: This is what 500 birds look like. This is every bird that still exists."

Under the rules of the Endangered Species Act, once a species is discovered to be at risk of extinction, government agencies are required by law to take steps to save it. For years, critics have challenged that mandate, arguing that it undercuts the ability to weigh a species' value or to consider the economic impact of its preservation — for instance, the cost of prohibiting logging in a valuable tract of forest. Since Donald Trump took office, these objections have gained ground; there are currently six bills pending in Congress, all aimed at overhauling (some would say gutting) the Endangered Species Act.

For Crampton, these political developments have been alarming but also comparatively remote, at least relative to her immediate problem: getting a pair of extremely fragile eggs out of a tightly built nest at the very top of the tree canopy. This process can take up to two days, given the ruggedness of the akikiki's habitat, a remote area known as the Alakai Swamp. That morning, after some discussion, Crampton and the team chose a spot on a 45-degree slope almost directly below the nest, and cautiously began to erect the ladder: a free-standing spire with thin, round rungs that was balanced at a precise angle and then secured with ropes lashed to the surrounding trees.

Until recently, the Alakai held the title of the wettest place on Earth, with one to two inches of rain a day (it was eclipsed by a village in far eastern India), and the terrain is almost impossibly steep: a welter of accordion-fold ridges and deep, narrow canyons, all running with water. Because there are no trails, researchers often have to bushwhack for miles in search of nests, wading up knee-deep streams or descending knife-edge slopes spongy with deadfall and slippery with mud. In part because the terrain is so punishing, Crampton estimates that it takes roughly 130 person-hours to recover a single pair of eggs, which must then be hiked out in a heated container and flown to a special incubation facility, where the eggs will be hatched and the chicks hand-raised by specialists from the San Diego Zoo. (So far, this process has produced 39 birds, who will be bred in captivity to create a reservoir population.)

Saving a species becomes substantially harder the closer it gets to extinction, and the argument for preserving the akikiki may seem particularly tenuous. Though the akikiki perform various environmental functions, like eating insects off tree branches, they don't appear to play a crucial role in the Alakai ecosystem. And because akikiki retreated to the highlands several decades ago and weren't particularly noticeable in the first place, it's hard to argue that their loss impoverishes our experience of the world. Even Crampton admitted that a majority of Hawaii residents probably haven't noticed the bird's disappearance, while tourists tend to assume that the island's brightly colored tropical birds (the Mexican redheaded parrot and the Indian tricolor munia, for example) are indigenous.

One arguably legitimate criticism of the Endangered Species Act is that trying to save every creature is both unrealistic and inefficient. Because the act requires that we help all species at risk of extinction, the argument goes, agencies end up spending vital resources on less-important species, rather than concentrating on the most critical ones. Assigning value to species is a nearly impossible undertaking, because it involves a bewildering number of variables, including ecological importance, utility (coral reefs can act as breakwaters during coastal storms), the species' place in our heritage, even its beauty or symbolism. Conservation has no formula for weighting these factors, either alone or in combination, and it's hard to imagine one that people could agree on. How do we decide whether the wolf or the snow leopard is more valuable?

In response, some conservation groups have argued that we should put our efforts toward saving the most genetically diverse species, with the goal of increasing our long-term ecological resiliency. (In this view, saving the akikiki, which is one of 18 living species of Hawaiian honeycreeper, would be a low priority.) Others have suggested prioritizing "functional diversity": the preservation of key species, like predators and pollinators, whose presence can radically affect an ecosystem.

All of which makes the akikiki a complicated case in point: In the face of growing political and environmental pressures, how should we decide what to save?

Of the 1,280 endangered animals and plants listed by the United States Fish and Wildlife Service, 557 are from Hawaii, including the short-tailed albatross, the Hawaiian hoary bat and the Kauai cave wolf spider, as well as four species of turtle, six damselflies, two varieties of pond shrimp, four snails and seven kinds of yellow-faced bee. Conservationists have called the islands "the extinction capital of the world."

This is true in part because Hawaii is a tropical paradise so fertile that seeds from a foreign plant can spread to blanket the island in the space of a few years. When the islands were new bits of volcanic rock in the middle of a vast ocean, this fertility worked in species' favor, allowing them to diversify, Galapagos-style, into dozens of discrete niches, with few competitive pressures. In the last hundred years, though, those same factors have become a liability. Hawaii's tropical weather and location as a Pacific trade and tourism hub have made it a kind of petri dish for invasive species, which arrive from nearly every continent and multiply extravagantly. On the Big Island, mongoose have proliferated, devastating local bird populations; so have Puerto Rican coquí frogs, which chirp abruptly and erratically at 90 decibels, like a mobile infestation of alarm clocks. Cases of rat lungworm have risen sharply over the past five years, driven first by the arrival of the lungworm parasite, from Southeast Asia, followed by the spread of a nonnative slug that carries the disease. Kauai, meanwhile, is plagued by feral pigs, rose-ringed parakeets and a new invasive seaweed that arrived either in ballast water or in the dumped contents of aquarium tanks and that has begun to smother the island's reef ecosystem. Since 1992, when a hurricane knocked over chicken coops, the island has also been overrun by roving bands of roosters and chickens; on my first day in Lihue, I saw dozens of them, many trailing hordes of chicks.

Faced with these cosmopolitan arrivals, island species can seem like the wildlife equivalent of a naïve Midwesterner asking a guy in Times Square to hold his wallet. Native trees and plants have often lost their defenses — the

islands have stingless nettles and thornless raspberries — and in many cases grow more slowly, making them easy marks for more aggressive species like miconia, a flowering plant from Central America that grows like a weed, produces thousands of seeds and shades out everything in its vicinity. Native animals and birds don't fare much better. "We have a seabird, the Laysan albatross, that nests on the ground," said Joshua Fisher, a biologist with the U.S. Fish and Wildlife Service. "A rat or a cat or a mongoose can literally walk right up to it and start eating its eggs. The birds just don't know what to do."

And once nonnative species do begin to take over, stopping them can be a Sisyphean task. One invasive fungus that kills ohia trees can spread just from the quantity of dirt trapped in the tread of a sneaker. (To combat this, Hawaii has asked hikers to scrub their boots with alcohol or a bleach solution.) A recent study at Kahului Airport on Maui found an average of one new insect species arriving every day. In the Alakai and elsewhere, these pressures have steadily squeezed out native species, at the same time as development has left them with less land to occupy. On top of that, even when an endangered animal survives in captivity, it often can't be reintroduced to the wild without falling victim to the same factors that drove it toward extinction in the first place.

As a result, our role as stewards of the earth is becoming more and more like that of doctors in a global intensive-care unit, trapped in a cycle of heroic, end-of-life measures. Many conservationists now operate in a state of constant maintenance: endlessly working to weed out invasive plants and predators, while trying to prop up species that have fallen into decline. At worst, an endangered animal becomes a literal ward of the state: preserved only in breeding facilities or in tiny, meticulously maintained "wild" habitats. "They're like patients that are never going to be discharged from the hospital," the environmental writer Emma Marris told me. "It's a permanent situation."

The official term for such species is "conservation-reliant." When I spoke with Michael Scott, a wildlife biologist at the University of Idaho who helped direct the California condor research effort, he estimated that roughly 84 percent of species on the United States endangered list are currently conservation-reliant. Of those, he added, a vast majority are in Hawaii. "Hawaii is the world capital of conservation-reliant species," Scott said.

Eggs being lowered down in the thermos with warm millet. Credit Spencer Lowell for The New York Times

It's not surprising that, at least initially, an endangered species would survive only with outside help. Where things get more complicated is when that care becomes perpetual. Proponents of the Endangered Species Act like to point to its efficacy: of all the species listed since 1973, 99 percent are still around. The flip side, critics observe, is that only 1 percent of those species have been sufficiently rehabilitated to leave the list.

But while conservation might benefit from a nuanced discussion of how best to allocate resources around vanishing species, a far more sweeping set of proposals has recently been put forward by elected officials hoping to take advantage of the Trump administration's willingness to weaken the environmental protections afforded by the Endangered Species Act. One bill, proposed by Pete Olson, a Republican congressman from Texas, would require a financial accounting before a species could be listed as threatened, ostensibly to prevent overspending but in practice giving local and federal governments a way to thwart new listings, especially those that might conflict with business interests like ranching, logging and development. Another, sponsored by Dan Newhouse, a Republican congressman from Washington, would change the criteria used to determine whether a species is endangered by expanding the definition of "best available" science to include studies conducted by local governments — a practice that Nora Apter at the Natural Resources Defense Council has described as "undermining the scientific listing process" by giving equal weight to potentially shoddy or biased studies.

"Behind closed doors, I think most conservationists would agree that some judicious modifications to the act could improve the

situation," Chris Costello, a resource economist at the University of California, Santa Barbara, says. But, he adds, "there's also a real and legitimate concern that if you open the E.S.A. up to economic criteria, it will almost immediately become much weaker. Without that mandate, it's very hard to generate the political will to save species."

Political maneuvering around the Endangered Species Act isn't particularly new. Since the late 1980s, critics have argued that the act limits industry and also hurts ranchers and loggers, for instance, by preventing ranchers from shooting wolves that prey on their livestock (a prohibition that has now largely been repealed). In 2008, an investigative report by The Washington Post concluded that the Bush administration managed to limit the species eligible for protection by erecting "pervasive bureaucratic obstacles" — for instance, by preventing Department of the Interior officials from using information in agency files that might support new listings.

What makes the current set of proposed bills different, Apter and others say, isn't their content but the current political environment — a sympathetic president and a Republican-controlled House and Senate — which makes them more likely to succeed. The real purpose of the bills, opponents argue, is to create business-friendly loopholes that would drastically undermine the protections of the original law, not least because one of the biggest impacts of the act isn't the resuscitation of an individual species but the other benefits that effort brings. According to the act, protecting a species also means preserving its habitat, a provision that inevitably helps the vast number of plants and animal that happen to occupy the same ecosystem. (A fence built to keep invasive wild pigs out of the akikiki's breeding area, for instance, will also help protect dozens of native plants and trees, including the ohia, because it will stop the pigs from spreading invasive seeds in their feces.)

"They're basically trying to steamroll it," Apter told me. She said that at least one bill was also trying to make the listing requirements for endangered species more elaborate, further hobbling a process — data gathering, scientific assessment and priority and practicality evaluation — that is already backlogged. (The U.S. Fish and Wildlife Service puts the number of potentially at-risk species waiting review at 550.)

When I mentioned this concern to Paul Ferraro, an economist at Johns Hopkins University, he acknowledged the danger posed to the Endangered Species Act by the current bills. But he also noted that, at a purely economic level, some trade-offs will be inevitable. "The fact is that when you spend resources on one species, you by definition are not spending them on another," Ferraro said. "In the end, you can't get away from putting values on species."

Before I joined Crampton and Michelle Clark, a biologist from the Pacific Islands Fish and Wildlife Office, at the Lihue heliport for the 15-minute flight into the interior, Crampton warned me that journalists tend to underestimate the Alakai. She recalled how one photographer, who had planned to spend a full week with the team, made it just a few hundred yards before giving up; she spent the remainder of the day at the field camp. Another visitor, who regularly hiked the Sierra Nevada, was flown out after less than 24 hours. "I guess she was used to pine trees or something," Crampton told me. "And trails."

By the time I arrived in late May, the team had spent the past three months rotating in and out of a muddy field camp consisting of a single large tent with four cots, a Coleman stove, a laminated map and several musty plastic ration tubs. With the season winding down, the team that week consisted of just two people: Mandy Peterson and Marcus Collado, a wildlife biologist from Maine who was easygoing but prone to turning morose. Crampton called his bleaker comments "Marcus musings."

Before coming to Kauai, Collado worked banding golden-eagle chicks, a task that required him to stand on the skid of a helicopter as it flew, then jump from the skid to the cliff-face ledge where an eagle had nested. By comparison, harvesting eggs in the Alakai qualified as a relaxing vacation, though Collado noted that "it can get a little sad" because akikiki are so scarce. "In the job interview, they warn you: 'You may not see any birds or find any nests,' " Collado told me. "And I thought, Man, this could be tough."

Akikiki eggs in millet in an incubator. Credit Spencer Lowell for The New York Times

When the akikiki's steep decline was discovered in 2012, the Fish and Wildlife Service convened a panel of experts to determine what, if anything, should be done to stave off extinction. After three days of debate, the group agreed to a set of interventions, including the construction of an eight-foot-tall, five-mile-long, pig-proof fence, and the installation of what would eventually be 300 reusable rat traps, each of which to be hand-placed in key areas and stocked with bait, to keep nonnative rats from eating the birds' eggs, their chicks and sometimes even the birds themselves, usually when a bird refused to abandon its nest.

People tend to go into conservation biology to save species, but in practice, the job can be more about killing things. The camp keeps two binders for logging information. One is devoted to akikiki sightings and nests. Another tracks rat kills and is labeled "Charlie work," a reference to the TV show "It's Always Sunny in Philadelphia," in which a character named Charlie is regularly dispatched to kill rats. When I pointed out that the rat binder was almost four times thicker than the bird binder, Peterson shrugged. "We do a lot of rat killing. We probably kill more rats than we find birds."

Either way, the work can be wearing. Earlier this season, the camp started keeping a dream journal, which ended up doubling as a kind of anxiety log. A few weeks back, Collado said, he had a dream in which he saw the last surviving akikiki drowning in a canal. He raced to save it but arrived too late. Not long after that, Peterson dreamed that she saw an akikiki made of Legos and knew, in that moment, that all the real akikiki had died.

I joined Collado and Clark one morning when they went to check on an akikiki nest in a valley known as Far Quarter, about two hours from camp. At a previous job on Mono Lake, the associate director of the Kauai Forest Bird Recovery Project, Justin Hite, worked with a biologist who gave colorful names to the lake's islets — Little Norway, Little Tahiti — and in the Alakai, Hite carried on the tradition. A sharp-edged stretch became Titanic Ridge ("I'm on top of the world!"). An area that shone with a rare forest rainbow was called Unicorn Paradise. One particularly inaccessible stretch became the Chasm of Doom, but when this nickname led field teams to avoid the area, it was rechristened Kasmadu.

That day, the forest had a sleepy feel. Clark stopped to admire a tiny, lacy fern known as lady of the mountain; later, she pointed out another, larger fern covered in soft brown hairs, which were once collected to make mattresses. Surprisingly, there was almost no bird song and not even much in the way of insects, just the occasional drone of a helicopter. (Though tourist helicopters aren't supposed to fly that low over the Alakai, Clark told me, some still do.)

By the time we got to the site, it was almost midday and hot. Because the team had already harvested eggs from this pair of birds, Collado's task was to see whether the new clutch had hatched and, if so, to find out how many of the chicks survived. Sitting on the stream bank, Collado used athletic tape to lash a GoPro video camera to the top of a collapsible 30-foot aluminum pole. Fully extended, the pole had an alarming sway; maneuvering it close enough to see inside a nest, without hitting the nest itself, was a heart-stopping project.

That morning, though, the main problem was getting the camera high enough; even held directly overhead, the pole was almost 10 feet too short. Peering around, Collado considered the landscape. "Justin wasn't kidding when he said it was nearly impossible to check this nest," he said. Spotting some scuff marks on a dead ohia tree, he began to shinny up. "I know Justin managed it somehow," he added. "But I've also seen him fall a lot. He does sketchy stuff that the rest of us won't."

Once he managed to climb about 10 feet, Collado asked Clark to hand him the pole, which he carefully levered into the canopy, only to find that the view was blocked by leaves. For the next 20 minutes, Collado patiently worked the camera closer, while Clark watched the video feed on her phone. Finally, a blurry image of a small gray bird came into view. "There she is!" Clark said excitedly. Peering at the screen, I saw a small, disgruntled-looking bird with a slim tail and a tiny patch of white over its eye.

Over dinner the night before, Crampton described akikiki as "the little guys that at first

you think are really boring, but then you spend a little time with them and discover that they have all these talents that are totally endearing. They do flips around the branches." That morning, though, the only talent the akikiki exhibited was an unbudging perseverance.

Hoping to get a look inside the nest, Collado climbed down, assuming that the akikiki would eventually fly off to feed. It didn't. My notes from the time say: "Been here an hour. No change. Nothing to do but sit and watch."

The history of the planet is rife with extinctions, often sweeping ones. Roughly 250 million years ago, a cataclysmic eruption destroyed more than 95 percent of the life in the oceans and 70 percent of the animals on land, effectively erasing about 10 million years of evolution. In the past five centuries, extinctions have become less dramatic but arguably more constant: a slow drip of change as humans have spread across the globe, clearing forests, planting crops, building cities and roads.

When the Endangered Species Act was passed in 1973, it was in response to a slowly dawning awareness of how the planet was changing under human dominion. Centuries of aggressive hunting and development had shrunk the once-spectacular abundance of American wildlife to a degree that prompted widespread bipartisan alarm. The new law, which was unanimously approved by the Senate, made it a federal crime to kill an endangered animal and, more radical, established the rigorous protection measures still in place today: that once a species reaches the point of endangerment, government agencies are required to take steps to save it. At the time, this inflexibility was considered a crucial bulwark against the pressure that would be brought by politically powerful industries, like logging and drilling. "Nothing is more priceless and more worthy of preservation than the rich array of animal life with which our country has been blessed," President Nixon said while signing the act.

Though it can be hard to imagine today, the Endangered Species Act was intended to be a starting point rather than an endgame; a last-ditch way to save species that were vanishing until more comprehensive and farsighted conservation plans could be put in place. As Chris D. Thomas, an ecologist and evolutionary biologist at the University of York, puts it, "The fact that we reach this point, with all the heroic measures, shows that we're not great at planning ahead."

But it's also true that extinctions just seem to get to us. We make a modest effort as a species dwindles and then, when it's really on the ropes, we suddenly panic. "There's just something gutting about a thing being lost to us forever," Thomas says.

More debatable is the degree to which extinctions are genuinely catastrophic. Do these disappearances represent the loss of rare, beloved plants and birds? Or are they simply the next evolutionary step in an ever-changing, increasingly global ecosystem? When I spoke with Thomas, he supported the idea that truly invasive species — the kind that transform the landscape — may need to be contained. But it's also true that the early isolation of the Pacific islands was itself an artifact. "If you look at it cruelly and unemotionally, Hawaii has native birds and introduced birds," he told me. "The native birds are dying out, and the introduced birds are malaria resistant. Are the introduced birds worse? Not necessarily. You could argue that this is simply a case where island species have lost out and continental species have won."

In this view, the loss of Hawaii's native birds and plants and their replacement by species that are more resistant to disease and predators, is just another case of the fittest surviving. If humans have accelerated this process by planting Argentine pampas grass in their gardens or by dumping tropical aquarium fish in their local lake, it's still just a faster, looser version of what has been happening on the planet anyway: Starbucks in Paris and McDonald's in Soweto; Australian brown tree snakes in Guam and Asian carp in the Great Lakes.

In short, it's fair to ask why, exactly, biodiversity matters. As Thomas says: "Even if we were to lose 10 percent of all species in the next hundred years, would biology stop? Would ecology stop? No. In fact, most people wouldn't even be aware of the loss." Given how radically we've already altered the landscape, how bad would it be if we just kept doing what we're

doing: paving the land, overfishing the oceans and letting the chips fall where they may?

Faced with this dilemma, some conservationists have tried to shift the focus to an economic argument known as "ecosystem services": the idea that we benefit from preserving biodiversity either because it saves us money (mangroves prevent coastal erosion that we would otherwise have to handle with an expensive engineering project) or because it contains something of value to us, either now or in the future. For instance, a biodiverse planet may provide a first defense against global warming. Or it may act as a repository of potential discoveries: new materials that mimic the strength of spider silk; drones modeled after insects; an anticancer drug derived from Amazonian moss.

While all this may be true — mangroves do prevent coastal erosion; research into new cancer drugs derived from plants is underway — it can also sound wishful, like a hoarder arguing that his pile of junk might someday contain collectors' items. The difference, Thomas says, is that unlike a hoarder's pile, ecosystems perform vital planetary functions, like keeping soil fertile, preventing desertification and absorbing carbon dioxide. The reason some conservationists want to prioritize genetic or functional diversity isn't that either of those things are inherently valuable to people, though they can be, but because they're essential to the health and resiliency of ecosystems themselves. The true problem, then, is not whether we would notice those vanished species and ecosystems; it's that there's no good way to quantify the opportunity cost of our loss, which in turn can lead us to underestimate it. "The species we have now are the ancestors of all future species," Thomas says. "And I don't think we know enough about ecology or evolution, or how humans are going to affect the planet over the next thousand years, to bet on which animal or plant to keep."

All of which makes it hard to know where to draw the line. We can't put every ecosystem in the world under glass. (We can't even manage to do that on Kauai, a 500-square-mile island in the middle of the Pacific.) Even if we could, conservation isn't always an ethically straightforward choice; in countries like Brazil and Kenya, do we prioritize protecting wild animals and their habitats or the farmers facing hunger who hunt those animals and who log forests to plant crops?

Presumably, though, we also don't want a planet that's nothing but pavement, cattle farms and monoculture farmland. The biologist E.O. Wilson eloquently argued against living in a world of crows and rats, and against the loss of beautiful, fragile species like snow leopards, white rhinos and tiny mouse lemurs; even if you never see a lemur or an arctic fox in person, the world can be a richer place by having such creatures in it. Others simply see conservation as a moral duty: because we're the ones creating these problems, isn't it up to us to fix them?

Whether we regard conservation as an ethical or an economic issue, we're still faced with the question of how we decide what to save. In an ideal world, Michael Scott told me, conservation science would have the resources to study this question, rather than being stuck reacting to the latest crisis. "Figuring out which species and ecosystems are the most important to protect is a complicated project," Scott says. "At this point, just coming up with a list of qualities we want to investigate would be a good start."

But for such an approach to take hold, the conservation movement would have to undergo a profound shift — away from triage mode and toward a more coherent and deliberate plan for global conservation. And such a shift would most likely require more resources and more political support than currently exist. The question is whether it will happen in time to shelter us from some of the more significant changes that climate change and development are likely to bring.

One overcast morning, I drove up a winding road hung with vines to the Egg House, where recovered akikiki eggs are incubated and hatched. Mapping my route that morning, I envisioned the Egg House as a sophisticated research lab, stocked with high-powered equipment in temperature-controlled hatcheries. Instead, I found myself driving past suburban cul-de-sacs, lined with tidy houses, lawns and miniature palm trees, until I reached a small bungalow overlooking a forested canyon.

To say that the Egg House was no-frills radically understates things. Aside from the room housing the chicks, which has air-conditioning, the house is humid and almost completely empty. In the living room, someone had set up a single cot, with a sleeping bag.

That summer, the hatching and raising of the akikiki chicks was overseen by Amy Klotz and Becky Geelhood, from the San Diego Zoo's Institute of Conservation Research. Klotz, a thin woman in a turquoise Kauai Forest Bird Recovery Project shirt, described the work as exhausting. Chicks must be fed every one to two hours and are weighed every day. "I lie awake nights wondering, Why didn't that chick gain any weight since yesterday?" Klotz told me.

In principle, captive breeding will keep a species alive while conservationists try to change the environmental factors that killed it off in the first place. But recreating the many conditions that allow a species to thrive can be staggeringly complex.

When I spoke to Bryce Masuda, a conservation-program manager who oversees the captive-breeding program for the akikiki, he said that whether species reproduce can depend on complex cues in their environment: one bird might be signaled to mate by the appearance of a particular fruit, another by the abundance of a particular flower. Though zoo personnel do their best to replicate those conditions, Masuda told me, it can be difficult to determine what the important cues are. "With the akikiki, we increase the number of insects they get in the late winter and early spring," Masuda said, "because we're hoping that that will be a cue for them to lay eggs. But do they also need certain plants in their enclosures? Does the amount of rain each year matter? A lot of it, we just don't know."

Even should the akikiki overcome these hurdles, it will most likely remain susceptible to avian malaria, which has begun spreading into the last of the island's protected areas as the weather has grown both warmer and drier. When I asked Masuda why we should try to save the akikiki, given that it might never be able to survive in the wild, he demurred; even now, he said, the University of Hawaii was developing mosquitoes that would produce sterile offspring, significantly reducing the risk of avian malaria.

In theory, the potential for revitalization exists for most conservation-reliant species, even those, like the akikiki, currently on life support. When the California condor was on the verge of extinction — largely as a result of lead poisoning from eating animals shot by hunters but also because of their tendency to fly into power lines — David Brower, the former director of the Sierra Club, urged conservation groups to give the species "death with dignity." (His view did not prevail, and the population is now back up to more than 440.)

The peregrine falcon was similarly conservation-reliant for years, then rebounded after Congress outlawed DDT, which had been weakening the birds' shells; they can now be seen nesting on New York skyscrapers. "Even if a species is dependent on us now, it may not be dependent indefinitely," Chris Thomas says. But it's not easy to see which species will eventually win out. In the case of the akikiki, Thomas says, unless something radical is done — impairing the vectors of the disease, or making the birds resistant with gene therapy — the birds will never survive in the wild. There may be a solution around the corner, or there may not.

In the meantime, Geelhood and Klotz maintained their assiduous vigil. Because someone has to be watching over the eggs at all times — even an ordinary power outage could be lethal — the responsibility could be all-consuming. "Sometimes I won't leave the house for days," Klotz said. "Not even for 10 minutes to go to the store."

This sense of urgency was coupled with an awareness of just how long the odds for an endangered species can be. "You're basically terrified all the time," Klotz told me. "It's a lot on your shoulders when there are 500 birds left in the world.

How Much Should A Person Consume? by Ramachandra Guha

Final chapter from How Much Should A Person Consume?, 2006

"The United States is presiding at a general reorganization of the ways of living throughout the world."

-André Siegfried, speaking in 1932

This chapter takes as its point of departure an old essay by John Kenneth Galbraith—an essay so ancient and obscure that it might very well have been forgotten even by its prolific author. The essay was written in 1958, the same year that Galbraith published The Affluent Society, a book that wryly anatomized the social consequences of the mass consumption age. In his book, Galbraith had highlighted the 'preoccupation with productivity and production' in postwar America and Western Europe. The population in these societies had for the most part been adequately housed, clothed, and fed; now they expressed a desire for 'more elegant cars, more exotic food, more erotic clothing, more elaborate entertainment'.

When Galbraith termed 1950s America the 'Affluent Society' he meant not only that this was a society most of whose members were hugely prosperous when reckoned against other societies and other times, but also that this was a society so dedicated to affluence that the possession and consumption of material goods became the exclusive standard of individual and collective achievement. He quoted the anthropologist Geoffrey Gorer, who remarked that in modern America, 'any device or regulation which interfered, or can be conceived as interfering, with [the] supply of more and better things is resisted with unreasoning horror, as the religious resist blasphemy, or the warlike pacifism'.

The essay I speak of was written months after the book which made Galbraith's name and reputation. 'How Much Should a Country Consume?' is its provocative title, and it can be read as a reflective footnote to The Affluent Society. In the book itself, Galbraith had noted the disjunction between 'private affluence and public squalor', of how the single-minded pursuit of wealth had diverted attention and resources from the nurturing of true democracy, which he defined as the provision of public infrastructure, the creation of decent schools, parks, and hospitals. Now the economist turned his attention, all too fleetingly, to the long-term consequences of this collective promotion of consumption, of the 'gargantuan and growing appetite' for resources in contemporary America. The American conservation movement, he remarked, had certainly noted the massive exploitation of resources and materials in the postwar period. However, its response was to look for more efficient methods of extraction, or the substitution of one material for another through technological innovation. There was, wrote Galbraith, a noticeable 'selectivity in the conservationist's approach to materials consumption.' For if we are concerned about our great appetite for materials, it is plausible to seek to increase the supply, or decrease waste, to make better use of the stocks that are available, and to develop substitutes. But what of the appetite itself? Surely this is the ultimate source of the problem. If it continues its geometric course, will it not one day have to be restrained? Yet in the literature of the resource problem this is the forbidden question. Over it hangs a nearly total silence. It is as though, in the discussion of the chance for avoiding automobile accidents, we agree not to make any mention of speed!

A cultural explanation for this silence had been previously provided by the great Berkeley geographer Carl Sauer. Writing in 1938, Sauer remarked that 'the doctrine of a passing frontier of nature replaced by a permanent and sufficiently expanding frontier of technology is a contemporary and characteristic expression of occidental culture, itself a historical-geographical product.' This frontier attitude, he went on, 'has the recklessness of an optimism that has become habitual, but which is residual from the brave days when north-European freebooters overran the world and put it under tribute.' Warning that the surge of growth at the expense of nature would not last indefinitely, Sauer—speaking for his fellow Americans—noted wistfully that 'we

have not yet learned the difference between yield and loot. We do not like to be economic realists'.

John Kenneth Galbraith had identified two major reasons for the silence with regard to consumption. One was ideological, the worship of the Great God Growth. The principle of Growth (always with that capital G) was a cardinal belief of the American people; this necessarily implied a continuous increase in the production of consumer goods. The second reason was political, the widespread scepticism of the state. For the America of the 1950s had witnessed the 'resurgence of a notably over-simplified view of economic life which [ascribed] a magical automatism to the price system…'. Now Galbraith was himself an unreconstructed New Dealer, who would tackle the problem of over-consumption as he would tacke the problem of under-employment, that is, through purposive state intervention. At the time he wrote, however, free-market economics ruled, and 'since consumption could not be discussed without raising the question of an increased role for the state, it was not discussed'.

Four years later, Rachel Carson published Silent Spring, and the modern American environmental movement gathered pace. Would not one have expected this new voice of civil society to undertake what the market could not? As it happened, consumption continued to be the great unasked question of the conservation movement. The movement principally focused on two things: the threats to human health posed by pollution, and the threats to wild species and wild habitats posed by economic expansion. The latter concern became, in fact, the defining motif of the movement. The dominance of wilderness protection in American environmentalism has promoted an essentialy negativist agenda, the protection of the parks and their animals by freeing them of human habitation and productive activities. As the historian Samuel Hays points out, 'natural environments which formerly had been looked upon as "useless" waiting only to be developed, now came to be thought of as "useful" for filling human wants and needs. They played no less a significant role in the advanced consumer society than did such material goods as hi fi sets or indoor gardens'. While saving these islands of biodiversity, environmentalists paid scant attention to what was happening outside them. In the American economy as a whole, the consumption of energy and materials continued to rise.

A perceptive, and home-grown, critic of this selective environmentalism was the poet Wendell Berry. In an essay published in 1987, Berry rejected 'an assumed division or divisibility between nature and humanity, or wildness and domesticity'. In his view, 'conservation is going to prove increasingly futile and increasingly meaningless if its proscriptions and forbiddings are not positively answered by an economy that rewards and enforces good use'. He was himself of the conviction that 'the wildernesses cannot survive if our economy does not change'.

In the American context, Wendell Berry was—the metaphor is inescapable—a voice in the wild. For the growing popular interest in the wild and the beautiful not merely accepted the parameters of the affluent society, but was wont to see nature itself as merely one more good to be consumed. The uncertain commitment of most nature lovers to a more comprehensive environmental ideology is illustrated by the paradox that they were willing to drive thousands of miles, using up scarce oil and polluting the atmosphere, to visit national parks and sanctuaries; thus using anti-ecological means to marvel in the beauty of forests, swamps or mountains protected as specimens of a 'pristine' and 'untouched' nature.

The selectivity of the conservationist approach to consumption was underlined in the works of biologists obsessed with the 'population problem'. Influential American scientists such as Paul Ehrlich and Garret Hardin identified human population growth as the single most important reason for environmental degradation. This is how Ehrlich began the first chapter of his best-selling book, The Population Bomb:

> *I have understood the population explosion intellectually for a long time. I came to understand it emotionally one stinking hot night in Delhi a couple of years ago. My wife and daughter and I were returning to our hotel in an ancient taxi. The seats were hopping with fleas. The only functional gear was third. As we crawled through the*

city, we entered a crowded slum area. The temperature was well over 100, and the air was a haze of dust and smoke. The streets seemed alive with people. People eating, people washing, people sleeping. People visiting, people arguing and screaming. People thrusting their hands through the taxi window, begging. People defecating and urinating. People clinging to buses. People herding animals. People, people, people, people.

Here exploding numbers are blamed for increasing pollution, stinking hot air, and even technological obsolescence (that ancient taxi!). Through the 1970s and 80s, Neo-Malthusian interpretations gained wide currency. Countries such as India, and, especially, Bangladesh, were commonly blamed for causing an environmental crisis. Not surprisingly, activists in these countries were quick to take offence, pointing out that the United States of America consumes, per capita as well as in the aggregate, a far greater proportion of the world's resources. Table One gives some partial evidence of this. For apart from its over-use of nature's stock (which the table documents), American society has also placed an unbearable burden on nature's sink (which the table ignores). Thus the atmosphere and the oceans can absorb about 13 billion tonnes of carbon dioxide annually. This absorptive capacity, if distributed fairly amongst all the people of the world, would allow each human being to have the right to emit about 2. 3 tonnes of carbon dioxide per year. At present an American discharges in excess of 20 tonnes annually, a German 12 tonnes, a Japanese 9 tonnes, an Indian a little over one tonne. If we look at the process historically the charges mount, for it is the industrialized countries, led by the United States, who have been principally responsible for the build-up of greenhouse gases over the past hundred and fifty years.

Table I: The USA's Share of World Consumption of Key Materials, 1995 (figures in million tonnes)

(1) Material	(2) World Production	(3) US Consumption	(4)* 3 as % of 2
Minerals	7,641	2,410	31.54
Wood Products	724	170	23.48
Metals	1,196	132	11.03
Synthetics	252	131	51.98
All Materials	9,813	2,843	28.97

* U. S. population is approximately 4.42 % of total world population
Source: Computed from State of the World 1999 (New York: Worldwatch Institute and W. W. Norton, 1999)

These figures explain why Southern scholars and activists like to argue that the real 'population problem' is in America, since the birth of a single child there would have the same impact on the global environment as the birth of (say) seventy Indonesian children. There was a Bangladeshi diplomat who made this case whenever he could, in the United Nations and elsewhere. But after a visit to an American supermarket he was obliged to modify his argument, to claim instead that the birth of an American dog (or cat) was the equivalent, ecologically speaking, of the birth of a dozen Bangladeshi children.

Arguments like this, when presented or published in the United States, tend to lay one open to the charge of 'anti-Americanism'. So let me make it clear at once that I consider America to be, in many respects, a model for the world. Within its borders, it is far and away the most democratic of all the countries that claim membership of the United Nations. Over the years, I have often been struck by the dignity of labour in America, by the ease with which high-ranking Americans carry their own loads, fix their own fences, and mow their own lawns. This, it seems to me, is part of a wider absence of caste or class distinctions that would be simply

unthinkable in Europe or, indeed, India. Unlike those other places, here one can actually travel from the log-cabin to the White House, as witness the careers of Honest Abe in the 19th century and Dishonest Bill in the twentieth.

Left-wing intellectuals have tended to downplay these American achievements: the respect for the individual, the remarkable social mobility, the searching scrutiny to which public officials and state agencies are subjected. They see only the imperial power, the exploiter, and the bully, the invader of faraway lands and the manipulator of international organizations to serve the interests of the American economy.

Admittedly, on the world stage America is not a pretty sight. Even between its various wars of adventure, its arrogance is on continuous display. The United States has disregarded strictures passed on it by the International Court of Justice, and defaulted on its obligations to the United Nations. It has violated the global climate change treaty, and the global biodiversity treaty. It has not signed the agreement to abolish the production of land mines. The only international treaties it signs and honours are those it can both draft and impose on other countries, such as the agreement on Intellectual Property Rights.

Liberals and libertarians, whether American or not, salute the robustly democratic traditions of the United States. Socialists and anti-imperialists, whether American or not, castigate the bullying and overbearing instincts of the United States. Neither side is willing to see the other side of the picture. For the truth about America is that it is at once deeply democratic and instinctively imperialist. This curious co-existence of contrary values is certainly exceptional in the history of the world. Other democratic countries, such as Sweden or Norway at the present time, are not imperialist. Scandinavian countries honour their international obligations, and (unlike the Americans) generously support social welfare programmes in the poorer parts of the world. Other imperialist countries, such as France and Great Britain in the past, were not properly democratic. In the heyday of European expansion, men without property and all women did not have the vote. Even after suffrage was extended, British governments were run by an oligarchy. The imagination boggles at the thought of a Ken Starr examining the sexual and other peccadilloes of a Benjamin Disraeli.

My own view is that the link between democracy at home and imperialism abroad is provided by the American consumer economy, its apparently insatiable greed for the resources of other lands. Contrary to what Wendell Berry had thought, the wildernesses at home continued to be protected, but only because the ecological footprint of the American consumer grew, and grew. The free-booting instincts of the pioneer, once set loose on the lands to the West which were formally part of the nation, now found play in lands and waters east, south and north—whether these belonged to America or not. To cite only the most obvious example, the United States imports well over 50% of the oil it consumes.

This link seems to have escaped American environmentalism and, more surprisingly and regrettably, American scholarship as well. Consider the rich and growing academic field of environmental history. As I suggested in Chapter I, scholars in other parts of the world have taken much inspiration from the works of American exemplars, from their methodological subtlety and fruitful criss-crossing of disciplinary boundaries. For all this, there is a studied insularity among the historians of North America. There were, at last count, more than three hundred professional environmental historians in the U. S., and yet few have seriously studied the global consequences of the consumer society, the impact on land, soil, forests, climate, etc. of the American Way of Life.

One example of this territorial blindness is the Gulf Wars. In that prescient essay of 1958, John Kenneth Galbraith remarked that ‘it remains a canon of modern diplomacy that any preoccupation with oil should be concealed by calling on our still ample reserves of sanctimony’. To be sure, there were Americans who tore apart the veil of this sanctimonious hypocrisy, who pointed out that it was the United States government that had backed and armed Saddam Hussain, the dictator it now wished to overthrow. Yet the essentially material imperatives of the adventures in the Middle East remained unexamined. It was the leftwing British

newspaper, The Guardian, which claimed that the first Gulf War was carried out to safeguard The American Way of Driving. No American historian, however, has taken to heart the wisdom in that throwaway remark, to reveal in all its starkness the ecological imperialism of the sole superpower in the world.

II

I would now like to contrast the American case with the German one. Environmentalists in Germany have been more forthright in their criticisms of the consumer society. 'The key to a sustainable development model worldwide', writes Helmut Lippelt, 'is the question of whether West European societies really are able to reconstruct their industrial systems in order to permit an ecologically and socially viable way of production and consumption'. That Lippelt does not include the U. S. or Japan is noteworthy, an expression of his (and his movement's) willingness to take the burden upon themselves. West Europeans should reform themselves, rather than transfer their existing 'patterns of high production and high consumption to eastern Europe and the "Third World" [and thus] destroy the earth'.

For the German Greens, economic growth in Europe and North America has been made possible only through the economic and ecological exploitation of the Third World. The philosopher Rudolf Bahro was characteristically blunt; 'the present way of life of the most industrially advanced nations', he remarked in 1984, 'stands in a global and antagonistic contradiction to the natural conditions of human existence. We are eating up what other nations and future generations need to live on'. From this perspective,

The working class here [in the North] is the richest lower class in the world. And if I look at the problem from the point of view of the whole of humanity, not just from that of Europe, then I must say that the metropolitan working class is the worst exploiting class in history... What made poverty bearable in eighteenth or nineteenth-century Europe was the prospect of escaping it through exploitation of the periphery. But this is no longer a possibility, and continued industrialism in the Third World will mean poverty for whole generations and hunger for millions.

Bahro was a famous 'Fundi', a leader of that section of the German Greens which stood in the most uncompromising antagonism to modern society. But even the most hardheaded members of the other, or 'Realo', faction, acknowledged the unsustainability, on the global plane, of industrial society. The parliamentarian (and future Foreign Minister) Joschka Fischer, asked by a reporter where he planned to spend his old age, replied: 'In the Frankfurt cemetery, although by that time we may pose an environmental hazard with all the poisons, heavy metals and dioxin that we carry around in our bodies'. Or as a party document more matter-of-factly put it: 'The global spread of industrial economic policies and lifestyles is exhausting the basic ecological health of our planet faster than it can be replenished'. This global view, coupled with the stress on accountability, called for 'far-reaching voluntary commitments to restraint by wealthy nations'. The industrialized countries, who consume three-fourths of the world's energy and resources, and who contribute the lion's share of 'climate-threatening gaseous emissions', must curb their voracious appetite while allowing Southern nations to grow out of poverty. Green theorists ask for the cancellation of international debt, the banning of trade in products that destroy vulnerable ecosystems, and most radical of all, for the freer migration of peoples from poor countries to rich ones.

These elements in the Green program were, of course, forged as an alternative to the policies promoted by the two dominant political parties in Germany, themselves committed to the Great God Growth. Between 1998 and 2005, the Greens found themselves sharing power at the Federal level, junior partners, but partners nevertheless, in a coalition dominated by the Social Democrat. Being in power certainly tamed them. They now worked only for incremental change, instead of the wholesale restructuring of the consumption and production system some of them had previously advocated.

The critique of over-consumption made manifest by the German Greens is not absent in other European environmental traditions. A few months prior to the Earth Summit of 1992, the

Dutch Alliance of Sustainable Development invited four Southern scholars to write a report on the Dutch economy and environment. A Brazilian anthropologist, an Indian sociologist, a Tanzanian agronomist and an Indonesian activist, two men and two women, spent six weeks in Holland, talking to a wide cross-section of citizens and public officials. Their report focused on the Dutch 'addiction to affluence', as revealed in an over-reliance on the motor-car, a dependence on the lands and resources of other countries, and high levels of pollution. The foreign critics posed the sharp question, 'Can Dutch society put limits to itself?' They thought, optimistically, that the developed democratic culture of the Netherlands did offer possibilities of self-correction, but for that to work, political action had to be accompanied by technical change, by the exercise of individual restraint, and by a wider social resolve to share their wealth with the less-advantaged societies of the South.

It says something about Dutch environmentalists that they extended this invitation in the first place. At the risk (once more) of being called anti-American, it must be said that one cannot easily imagine the Sierra Club initiating such an examination.

III

Fifty years before the founding of the German Green party, and thirty years before the article by Galbraith with which this chapter began, an Indian politician had pointed to the unsustainability, at the global level, of the Western model of economic development. 'God forbid, he wrote, 'that India should ever take to industrialization after the manner of the West. The economic imperialism of a single tiny island kingdom (England) is today keeping the world in chains. If an entire nation of 300 million took to similar economic exploitation, it would strip the world bare like locusts'.

The man was Mahatma Gandhi, writing in his journal Young India in December 1928. Two years earlier, Gandhi had claimed that to 'make India like England and America is to find some other races and places of the earth for exploitation'. As it appeared that the Western nations had already 'divided all the known races outside Europe for exploitation and there are no new worlds to discover', he pointedly asked: 'What can be the fate of India trying to ape the West?' .

Gandhi's critique of Western industrialization has, of course, profound implications for the way we live and relate to the environment today. For him, 'the distinguishing characteristic of modern civilization is an indefinite multiplicity of wants'; whereas ancient civilizations were marked by an 'imperative restriction upon, and a strict regulating of, these wants' . In uncharacteristically intemperate tones, he spoke of his 'wholeheartedly detest[ing] this mad desire to destroy distance and time, to increase animal appetites, and go to the ends of the earth in search of their satisfaction. If modern civilization stands for all this, and I have understood it to do so, I call it satanic'.

At the level of the individual, Gandhi's code of voluntary simplicity also offered a sustainable alternative to modern lifestyles. One of his best known aphorisms, that the 'world has enough for everybody's need, but not enough for everybody's greed', is, in effect, an exquisitely phrased one-line environmental ethic. This was an ethic he himself practiced; for resource recycling, and the minimization of wants, were integral to his life.

Gandhi's arguments have been revived and elaborated by the present generation of Indian environmentalists. As explained in Chapter II, their land is veritably an ecological disaster zone, marked by high rates of deforestation, species loss, land degradation, and air and water pollution. The consequences of this abuse of nature have been chiefly borne by the poor in the countryside—the peasants, tribals, fisherfolk and pastoralists who have seen their resources snatched away or depleted by more powerful economic interests. For in the last few decades, the men who rule India have attempted precisely to 'make India like England and America'. Without the access to resources and markets enjoyed by those two nations when they began to industrialize, India has had perforce to rely on the exploitation of its own people and environment. The natural resources of the countryside have been increasingly channelized to meet the needs of the urban-industrial sector; the diversion of forests, water, minerals, etc. to

the elite having accelerated processes of environmental degradation even as it has deprived rural and tribal communities of their traditional rights of access and use. Meanwhile, the modern sector has moved aggressively into the remaining resource frontiers of India, the North-East and the Andaman and Nicobar islands. This bias towards urban-industrial development has resulted only in a one-sided exploitation of the hinterland, thus proving Gandhi's contention that 'the blood of the villages is the cement with which the edifice of the cities is built'.

The preceding paragraph brutally summarizes arguments and evidence provided in a whole array of Indian environmentalist tracts. Simplifying still further, one might say that the key contribution of the Indian environmental movement has been to point to inequalities of consumption within a society (or nation). In this respect they have complemented the work of their German counterparts, who have most effectively highlighted the inequalities of consumption between societies and nations.

The criticisms of these environmentalists are strongly flavoured by morality, by the sheer injustice of one group or country consuming more than its fair share of the earth's resources, by the political imperative of restoring some semblance of equality in global and national consumption. I now present an analytical framework that might more dispassionately explain these asymmetries in patterns of consumption. Derived in the first instance from the Indian experience, this model rests on a fundamental opposition between two groups, termed omnivores and ecosystem people respectively. The two groups are distinguished above all by the size of their 'resource catchment'. Thus omnivores, who include industrialists, rich farmers, state officials, and the growing middle class based in the cities (estimated at in excess of 100 million), have the capability to draw upon the natural resources of the whole of India to maintain their lifestyles. Ecosystem people, on the other hand—who would include roughly two-thirds of the rural population, say about 400 million people—rely for the most part on the resources of their own vicinity, from a catchment of a few dozen square miles at best. Such are the small and marginal farmers in rain-fed tracts, the landless labourers, and also the heavily resource-dependent communities of hunter-gatherers, swidden agriculturists, animal herders and wood-working artisans, all stubborn 'pre-modern' survivals in an increasingly 'post-modern' landscape.

The process of development in independent India has been characterised by a basic asymmetry between the omnivores and the ecosystem people. A one-sentence definition of economic development, as it has unfolded over the last sixty years, would be: 'Development is the channelizing of an ever increasing volume of natural resources, through the intervention of the state apparatus and at the cost of the state exchequer, to subserve the interests of the rural and urban omnivores'. Some central features of this process have been:

1. The concentration of political power/decision making in hands of omnivores.
2. Hence the use of the state machinery to divert natural resources to islands of omnivore prosperity, especially through the use of subsidies. Wood for paper mills, fertilizers for rich farmers, water and power for urban dwellers, have all been supplied by the state to omnivores at well below market prices.
3. The culture of subsidies has fostered an indifference of omnivores to environmental degradation caused by them, this compounded by their ability to pass on its costs to ecosystem people or to society at large.
4. Projects based on the capture of wood, water or minerals—such as eucalyptus plantations, large dams or open-cast mining—have tended to dispossess the ecosystem people who previously enjoyed ready access to those resources. This has led to a rising tide of protests by the victims of development; Chipko, Narmada and dozens of other protests that we know collectively as the 'Indian environmental movement'.
5. But development has also permanently displaced large numbers of ecosystem people from their homes. Some twenty million Indians have been uprooted by steel mills, dams, and the like; countless others have

been forced to move to the cities in search of a legitimate livelihood denied to them in the countryside (sometimes as a direct consequence of environmental degradation). Thus has been created a third class, of ecological refugees, living in slums and temporary shelters in the towns and cities of India.

This framework, which divides the Indian population into the three socio-ecological classes of omnivores, ecosystem people, and ecological refugees, can help us understand why economic development has destroyed nature but also failed to remove poverty. The framework synthesizes the insights of ecology with sociology, in that it distinguishes social classes by their respective resource catchments, by their cultures and styles of consumption, and also by their widely varying powers to influence state policy.

The framework is analytical as well as value-laden, descriptive and prescriptive. It helps us understand and interpret nature-based conflicts at various spatial scales: from the village community upwards through the district and region on to the nation. Stemming from the study of the history of modern India, it might also throw light on the dynamics of socio-ecological change in other large, rapidly industrializing countries such as Brazil and Malaysia, where too have erupted conflicts between 'omnivores' and 'ecosystem people', and whose cities are likewise marked by a growing population of 'ecological refugees'. At a pinch, it might explain asymmetries and inequalities at the global level too. It was in the middle of the 19th century that a German radical proclaimed, 'Workers of the World, Unite!'. But as another German radical recently reminded this writer, the reality of our times is very nearly the reverse —the process of globalization whose motto might very well be 'Omnivores of the World, Unite!'

IV

What then is the prospect for the future? There are, at present, two alternative answers to this question. One answer guides the work of the institutions that constitute the so-called 'Washington Consensus'. It also informs the economic policies of most national governments. The other answer animates the activism of the environmental and anti-globalization movements.

The first alternative I call The Fallacy of the Romantic Economist. This states that everyone can become an omnivore, if only we allow the market full play. When, back in 1972, resource scientists had raised the question of 'Limits to Growth', the economist Wilfrid Beckerman claimed that there was 'no reason to suppose that economic growth cannot continue for another 2,500 years'. The optimism was wholly characteristic of a profession mistakenly dubbed the 'dismal science'. And with the fall of the Berlin Wall, the optimism has been reinforced and renewed. Economists everywhere are the cheerleaders for the processes of globalization now unfolding, processes which, in their view, promises a universalization of American styles of consumption.

My own opinion is that aspects of economic globalization are indeed welcome. These include the free flow of information, the inducements to innovation, and the encouragement to entrepreneurship. In countries like China and India, the retreat of the State from the economy has led to much quicker rates of economic growth. All this has greatly augmented human welfare, in the short-term. The long-term prospects are more worrying. One problem, foregrounded by left-wing critics, is that the fruits of economic growth have been very unevenly distributed. Although, in both India and China, aggregate poverty has substantially reduced, there remains large pockets of deprivation.

The problem of equity can perhaps be mitigated by purposive social policies, by spreading education and health across the board, and by nurturing opportunities for growth among communities and regions who appear to be 'falling behind'. Less tractable is the problem of ecology.

Consider thus the spread of personalized transport in China, where, as it was once in America, the possession of a car is the one true sign that a human being has become properly modern. As The Economist magazine approvingly reports, the car is seen by the middle-class Chinese as the 'symbol of freedom

and status'. In 2002, the demand for cars in China increased by 56%, in 2003 by 75%. In 2004, the State news agency, Xinhua, proclaimed that 'China has begun to enter the age of mass car consumption. This is a great and historic advance'. Shanghai has a Formula One race-track now, costing $ 320 million. The city will soon have a $ 50 m car museum.

There has been, as our precocious chapter epigraph suggests, a general reorganization of ways of life in the past century, which the Americans have led, with the rest of the world panting behind them. The Chinese, relative latecomers to this race, are striving hard to catch up with the leaders. In the capital city, Beijing, one in six residents now have cars. But for the country as a whole the proportion is one in 125, way below the U. S. average, which is 6 in 10. But, as the quote from Xinhua indicates, the public and popular desire is for China to become, in these respects, exactly like America. And in the cities of modern India the feelings are the same. Here too there has been a rapid spread of the motor-car, here too the sentiment among the young professional that not to possess one is to be left out in the cold.

Consider the impact on the environment of the spectacular recent growth in the economy of my own home town, Bangalore. Within a generation, a once sleepy cantonment has been transformed into a city of eight million, and a industrial and commercial hub. Although the growth has been led by a relatively 'dematerialized' industry, namely informational technology, the income generated and the desires spawned have had strikingly material effects. Bangalore now has an estimated 2 million motor vehicles. A little over half of these run on two wheels: scooters and motor-cycles. About a quarter are cars; the rest, buses, trucks, and utility vehicles. These take metals to build and oil to run and roads to drive on, and, lest we forget, emit by no means harmless chemicals into the air. The massive influx of population has also caused a building boom—with large offices made of cement and glass, and larger apartment buildings, likewise consuming vast amounts of energy and materials.

A question never asked by economists (or by The Economist) is this—can the world, as a whole, achieve American levels of car ownership? Can there be a world with four billion cars, an China with 700 million cars and an India with 600 million cars? Where will the oil and gas to run them come from? The metals to build them with? The tar for the roads to drive them on? And I take the car here as merely being indexical of a certain style of consumption. For with its use also come demands for other resources, other goods. In China and India now, as in the America of the 1950s, with the wish to possess more elegant cars has come also the desire for more exotic food, more erotic clothing, more elaborate entertainment.

In a recent series of articles, the New York Times columnist Thomas Friedman has written with alarm about the threats to the global environment posed by Chinese economic development. The billion-strong population of China, he says, use 45 billion pairs of chopsticks every year, these accounting for 25 million full-grown trees. Should they not move to eating with their fingers or with steel utensils instead? Speaking of the increasing energy consumption in China, he notes that a single shop in the city of Shenzen sold one thousand air-conditioners in a single hot weekend. 'There is a limit to how long you can do that', Friedman warns.

'What we don't want', writes the New York Times columnist, 'is for China to protect its own environment and then strip everyone else's in the developing world by importing their forests and minerals'. 'China's appetite for imported wood', he points out, 'had led to the stripping of forests in Russia, Africa, Burma and Brazil. China has just outsourced its environmental degradation'. This, says Friedman, 'is why the most important strategy the U. S. and China need to pursue, in concert, is one that brings business, government, and NGOs together to produce a more sustainable form of development—so China can create a model for itself and others on how to do more things with less stuff and fewer emissions'.

Friedman might have added that China has only been doing for the past decade what his own country has done for the past century: that is, protect its woods and forests while devastating the environments of other countries. Even now, it might help if the original sinner promotes a more sustainable form of

development within its own borders. It still does more things with much more stuff and massive emissions, facts which make its preaching to other countries so much harder to swallow. That said, the industrialization of India and China does pose special problems, these caused by the weight of sheer numbers. As Gandhi understood as early as 1928, if the most populous nations sought to emulate the ecologically wasteful ways of the most powerful, they put in peril the very conditions of human survival on this earth. So, by the time the Indians and the Chinese reach American levels of consumption, will they have stripped the world bare like locusts?

When I once posed this question in a seminar at the University of California at Berkeley, a biology professor answered that the solution lay in developments in modern genetics. It would soon be possible, he said, to engineer adult human beings who were two feet tall and weighed, on the average, a mere twenty kilograms, but who had the brains and techniques to yet outwit and dominate the rest of creation. This new race of Super(Small)Men would drive smaller cars on narrower roads to tiny offices from still more tiny homes. In other words, they could live more-or-less like the average American today, while consuming a fraction of the resources he did.

That prospect is, for the moment and perhaps for a long while yet, in the realm of fantasy. In the world we know and live in, what we see is India and China simply trying to become like England and America and thus, as Gandhi predicted, trying to 'find some other races and places of the earth for exploitation'. The Chinese interest in the Sudan or the Indian interest in Central Asia exactly parallels America's interest in the Middle East. We can see the leaders of these 'emerging' economies emulate the leaders of the already emerged, travelling to obscure parts of the world, sniffing around for oil. Both countries are also, like America, expanding their military, and both are, like America again, refusing to endorse international agreements that would bind them to the more responsible use of natural resources.

Forget the rest of the world, then. All Chinese or all Indians cannot become omnivores, either. The attempt to chase this fallacy will lead only to bitter social conflict and serious environmental degradation.

V

The alternative to the fallacy of the romantic economist is what I call the Fallacy of the Romantic Environmentalist. This holds that ecosystem people want to remain ecosystem people. The fallacy comes in two versions; the agrarian, and the primitivist or deep ecological. Let us take them in turn.

In 1937, soon after he had moved to a village in central India to devote himself to rural reconstruction, Gandhi defined his ideal village as follows:

> *It will have cottages with sufficient light and ventilation, built of a material obtainable within a radius of five miles of it. The cottages will have courtyards enabling householders to plant vegetables for domestic use and to house their cattle. The village lanes and streets will be free of all avoidable dust. It will have wells according to its needs and accessible to all. It will have houses of worship for all, also a common meeting place, a village common for grazing its cattle, a co-operative dairy, primary and secondary schools in which [vocational] education will be the central fact, and it will have Panchayats for settling disputes. It will produce its own grains, vegetables and fruit, and its own Khadi. This is roughly my idea of a model village…*

In many respects this is an appealing ideal: stressing local self-reliance, a clean and hygienic environment, the collective management and use of those gifts of nature so necessary for rural life, water and pasture. The problem is that Gandhi himself wanted it generalized. That is, in the India of his conception there would 700, 000 such villages run on ecological and moral lines. As for cities and factories, it was not clear what would happen to those that already existed; certainly new ones were not to be encouraged. A certain statis was also implied; India was, and

would always remain, a land of villages and villagers.

The anti-urban orientation of Gandhi was shared by his followers, such as J. C. Kumarappa, and it has been emphatically affirmed by his modern-day admirers. Contemporary Gandhian environmentalists, such as Medha Patkar and Sunderlal Bahuguna, see cities as corrupting and factories as polluting, this again in both senses, moral as well as ecological. The opportunities the one offer and the commodities the other produces are regarded as ephemeral to the good life. Certainly, their own work has been on protecting themselves and their constituency from these inducements. The peasant must remain a peasant; indeed, they would say, he wants to remain a peasant.

The 'ecosystem person' of the deep ecological vision is more likely to be a hunter-gatherer than a subsistence farmer. Still, like the agrarian, the committed deep ecologist is resolutely opposed to the artefacts of modernity; whether technological, social, or aesthetic. Some elements of their preferred Utopia have been described in Chapter III; to which let me now add a contemporary effort to create such a Utopia in practice. This is the handiwork of a man named Douglas Tompkins, an American billionaire who had a mid-life conversion experience and became a deep ecologist. Selling his clothing business for $ 150 million, he bought a thousand square miles of Chilean forest and resolved to save it for posterity; save not just the forests, but also the people who dwelled in it. He had a home built for himself, by local workmen using local methods, and employed local folk musicians playing timeless, or at least unchangeable, tunes. There was no electricity allowed in the campus; and no cars, although an exception was made for the helicopter which brought the owner in and sometimes took him out. Otherwise, Tompkins kept out 'the global economy which was a threat to their traditional culture'. As a visiting journalist wrote, Tompkins did not merely seek to save the land and forests, he planned 'to freeze the people in place'.

Strikingly, the environmental activists' rejection of modernity is being reproduced in and by influential sections of the academic world. Anthropologists in particular are almost falling over themselves in writing epitaphs to development, in works that seemingly dismiss the very prospects of directed social change in the world outside Europe and America. It is implied that development is a nasty imposition on the innocent peasant and tribal, who, left to himself, would not willingly partake of Enlightenment rationality, modern technology, or modern consumer goods. This literature has become so abundant and so influential that it has even been anthologized, in a volume called (what else!) The Post Development Reader.

The editor of this volume is a retired Iranian diplomat now living in the South of France. The authors of those other demolitions of the development project are, without exception, tenured professors at well-established Western universities. I rather suspect that the objects of their sympathy would cheerfully exchange their own social position with that of their chroniclers. For if it is impossible to create a world peopled entirely by omnivores, it is equally a fallacy that ecosystem people want to remain as they are, that they do not want to enhance their own resource consumption. I think the tenured critics of 'development' and 'modernity' need to be reminded of these words of the late Raymond Williams, here speaking of his boyhood in Wales:

At home we were glad of the Industrial Revolution, and of its consequent social and political changes. True, we lived in a very beautiful farming valley, and the valleys beyond the limestone we could all see were ugly. But there was one gift that was overriding, one gift which at any price we would take, the gift of power that is everything to men who have worked with their hands. It was slow in coming to us, in all its effects, but steam power, the petrol engine, electricity, these and their host of products in commodities and services, we took as quickly as we could get them, and were glad. I have seen all these things being used, and I have seen the things they replaced. I will not listen with any patience to any acid listing of them—you know the sneer you can get into plumbing, baby Austins, aspirin, contraceptives, canned food. But I say to these Pharisees: dirty water, headaches, broken women, hunger and monotony of diet. The working people, in town and country alike, will not listen (and I support

them) to any account of our society which supposes that these things are not progress: not just mechanical, external progress either, but a real service of life.

This point can be made as effectively by way of anecdote. Some years ago, a group of Indian scholars and activists gathered in the southern town of Manipal for a national meeting to commemorate Mahatma Gandhi's one-hundred-and twenty-fifth birth anniversary. They spoke against a backdrop of a lifesize portrait of Gandhi, clad in the loincloth he wore for the last thirty years of his life. Speaker after speaker invoked the mode of dress as symbolizing the message of the Mahatma. Why did we all not follow his example and give up everything, to thus mingle more definitively with the masses?

Then, on the last evening of the conference, the Dalit (low-caste) poet Devanur Mahadeva got up to speak. He read out a short poem in Kannada, written not by him but by a Dalit woman of his acquaintance. The poem spoke reverentially of the great Dalit leader B. R. Ambedkar (1889-1956), and, especially, of the dark blue suit that Ambedkar invariably wore in the last three decades of his life. Why did the Dalit lady focus on Ambedkar's suit, asked Mahadeva? Why, indeed, did the countless statues of Ambedkar put up in Dalit hamlets always have him clad in suit-and-tie, he asked? His answer was deceptively and eloquently simple. Now if Gandhi wears a loin-cloth, said Mahadeva, we all marvel at his tyaga, his sacrifice. The scantiness of dress is, in this case, a marker of what the man has given up. A high-caste, well-born, English educated lawyer had voluntarily chosen to give up power and position and live the life of an Indian peasant. That is why we memorialize that loincloth.

However, if Ambedkar had worn a loin cloth that would not occasion either wonder or surprise. He is an Untouchable, we would say—what else should he wear? Millions of his caste fellows wear nothing else. It is the fact that he has escaped this fate, the fact that his extraordinary personal achievements—a law degree from Lincoln's Inn, a PhD from Columbia University, the drafting of the Constitution of India—allowed him to escape the fate that society and history alloted to him, that is so effectively symbolized in that blue suit. Modernity, not tradition, development, not stagnation, is responsible for this inversion, for this successful yet all-too-infrequent storming of the upper caste citadel.

Finally, it should be said that the aspirations for a better, or at least different, life, among the disprivileged or disadvantaged are not restricted to economic elements alone. The journalist who visited Douglas Tompkins's Chilean estate found that the folk musicians employed to preserve their music listened, on the sly, to American rap.

VI

Let me now attempt to represent the story of Ambedkar's suit in more material terms. Consider these simple hierarchies of fuel, housing and transportation:

Table II: Hierachies of Resource Consumption

Fuel Used	Mode of Housing	Mode of Transport
Grass	Cave	Feet
Wood, Dung	Thatched hut	Bullock cart
Coal, Kerosene	Wooden house	Bicycle
Gas	Stone house	Motor scooter
Electricity	Cement house	Car

To go down any of these lists is to move towards a more reliable, more efficient, and generally safer mode of consumption. Why then would one abjure cheap and safe cooking fuel, for example, or quick and reliable transport, or stable houses that can outlive one monsoon? To prefer gas to dung for your stove, a car to a bullock-cart for your mobility, a wood home to a straw hut for your family, is to move towards more comfort, more well-being and more freedom. These are choices that, despite specious talk of cultural difference, must be made available to all humans.

At the same time, to move down these lists is to move towards a more intensive and possibly unsustainable use of resources. Unsustainable at

the global level, that is, for while a car expands freedom, there is no possibility whatsoever of every human on earth being able to possess a car. As things stand, some people consume too much, while other people consume far too little. There is an intimate, though not often enough noticed overlap, between ecological entitlements and economic status. For not only do the rich and powerful consume more than their 'fair share' of the world's resources, they are also usually better protected from the consequences of environmental degradation. It is these asymmetries that a responsible politics would seek to address. Restricting ourselves to India, for instance, one would work towards enhancing the social power of ecological refugees and ecosystem people, their ability to govern their lives and to gain from the transformation of nature into artefact. This policy would simultaneously force omnivores to internalize the costs of their profligate behavior. A new, 'green' development strategy would have six central elements:

1. A move towards a genuinely participatory democracy, with a strengthening of the institutions of local governance (at village, town or district levels) mandated by the Constitution of India but aborted by successive Central Governments in New Delhi. The experience of the odd states, such as West Bengal and Karnataka, which have experimented seriously with the panchayat or self-government system suggests that local control is more conducive to the successful management of forests, water, and other natural resources.
2. Creation of a process of natural resource use which is open, accessible and accountable. This would centre around a properly implemented Freedom of Information Act, so that citizens are fully informed about the designs of the state, and better able to challenge or welcome them, thus making public officials more responsive to their public.
3. The use of decentralization to stop the widespread undervaluing of natural resources. The removing of subsidies and the putting of a proper price tag will make resource use more efficient and less destructive of the environment.
4. The encouragement of a shift to private enterprise for producing goods and services, while making sure that there are no hidden subsidies, and that firms properly internalize externalities. There is at present an unfortunate distaste for the market among Indian radicals, whether Gandhian or Marxist. But one cannot turn one's back on the market; the task rather is to tame it. The people and environment of India have already paid an enormous price for allowing state monopolies in sectors such as steel, energy, transport, and communications.
5. The outline of sustainable policies for specific resource sectors. Chapters IV and V outline ways in which the management of the forest and the wild can be made consistent with the twin, if sometimes competing, claims of ecological integrity and social equity. Likewise, scientists and social scientists with the relevant expertise need to design policies for sustainable policies for transport, energy, housing, health, and water management. These policies must take account of what is not merely desirable, but also what is feasible.
6. This kind of development can, however, only succeed if India is a far more equitable society than is the case at present. Three key ways in enhancing the social power of ecological refugees and ecosystem people (in all of which the Indian state has largely failed) are land reform, literacy—especially female literacy—and proper health care. These measures would also help bring population growth under control. In the provision of health and education the state might be aided by the voluntary sector, paid for by communities out of public funds.

The charter of sustainable development outlined here applies, of course, only to one country, albeit a large and probably fairly representative one. Its raison d'etre is the persistent and grave inequalities of consumption within the nation. What then of inequalities of consumption within nations? This question has been authoritatively addressed in a study of the prospects for a 'Sustainable Germany' sponsored

by the Wüppertal Institute for Climate and Ecology. Its fundamental premise is that the North lays excessive claim to the 'environmental space' of the South. For the way the global economy is currently structured,

The North gains cheap access to cheap raw materials and hinders access to markets for processed products from those countries; it imposes a system (World Trade Organization) that favours the strong; it makes use of large areas of land in the South, tolerating soil degradation, damage to regional eco-systems, and disruption of local self-reliance; it exports toxic waste; it claims patent rights to utilization of biodiversity in tropical regions, etc.

Seen 'against the backdrop of a divided world', says the report, 'the excessive use of nature and its resources in the North is a principal block to greater justice in the world... A retreat of the rich from overconsumption is thus a necessary first step towards allowing space for improvement of the lives of an increasing number of people'. The problem thus identified, the report goes on to itemize, in meticulous detail, how Germany can take the lead in reorienting its economy and society towards a more sustainable path. It begins with an extended treatment of overconsumption, of the excessive use of the global commons by the West over the past two hundred years, of the terrestrial consequences of profligate lifestyles—soil erosion, forest depletion, biodiversity loss, air and water pollution. It then outlines a long range plan for reducing the 'throughput' of nature in the economy and cutting down on emissions.

Table III summarizes the targets set by the Wüppertal Institute. The report also outlines the policy and technical changes required to achieve them. These include the elimination of subsidies to chemical farming, the levying of ecological taxes (on gasoline, for example), and the move towards slower and fuel-efficient cars while shifting the movement of goods from road to rail. Some concrete examples of resource-conservation in practice are identified—such as the replacement of concrete girders by those made with steel, innovative examples of water-conservation and recycling within the city, and a novel contract between the Munich municipal authorities and organic farmers in the countryside. Building on examples such as these, Germany could transform itself from a nature-abusing society to a nature-saving one.

Table III: Some Environmental Objectives for a Sustainable Germany

Environmental Indicator	Target set for the year 2010
Energy	
Energy consumption (overall)	at least –30%
Fossil fuels	– 25%
Nuclear power	– 100%
Renewables	+ 3 to 5% per year
Energy efficiency	+ 3 to 5% per year
Materials	
Non-renewable raw materials	–25%
Material productivity	+ 4 to 6% per year
Substance release	
Carbon dioxide	– 35%
Sulphur dioxide	– 80 to 90%
Nitrogen oxides	– 80% by 2005
Ammonia	– 80 to 90%
Volatile organic compounds	– 80% by 2005
Synthetic nitrogen fertilizers	– 100%
Agricultural biocides	– 100%
Soil erosion	– 80 to 90%
Land Use	

Agriculture	Extensive conversion to organic farming methods
Forestry	extensive conversion to ecologically adapted silviculture

Source: Wolfgang Sachs, Reinhard Loske and Manfred Linz et al, *Greening the North: A Post–Industrial Blueprint for Ecology and Equity* (London: Zed Books, 1998)

The Wüppertal Institute study is notable for its mix of moral ends with material means, as well as its judicious blending of economic and technical options. More striking still has been its reception. The original German book sold 40, 000 copies, with an additional 100, 000 copies of an abbreviated version. It was made into an award-winning television film, and discussed by trade unions, political parties, consumer groups, scholars, church congregations and countless lay citizens. In several German towns and regions the attempts have begun to put some of these proposals in practice.

Admittedly, to reduce consumption even in a green-conscious rich society like Germany will take great skill and dexterity. On the one hand, as the Wüppertal Institute has demonstrated, the affluent economies of the West might easily limit material consumption without a diminution in individual or social welfare. On the other hand, if the economy does not 'grow' at, say 3% to 4% an annum, this will lead to unemployment. Which is precisely what happened during the SPD-Green coalition of 1998-2005, leading to their removal from office in the German elections of 2005. Of course, one might still aim for a 'steady-state economy' and address the problem of unemployment by following policies of internal redistribution, but this could put place great strains on the welfare state.

That governments are compelled to pursue policies which are popular enough to win or retain office, thus further complicates what is already a deeply complicated relationship. The social needs and demands of the economy have to be made consistent with the natural constraints of ecology; and both have to be harmonized with the political imperatives of democracy.

To effectively and sustainably resolve these conflicts requires us to truly think through the environment: think through it morally and politically, historically and sociologically, and—not least–economically and technologically. The challenges that this poses are formidable indeed. Yet they have to be met. The inequalities of consumption must be addressed, and at both national and international levels. And the two are interconnected. The Spanish economist Juan Martinez-Alier provides one telling example. In the poorer countries of Asia and Africa, firewood and animal dung are often the only source of cooking fuel. These are inefficient and polluting, and their collection involves much drudgery. The provision of oil or LPG for the cooking stoves of the Nigerian or Nepali peasant woman would greatly improve the quality of their lives. This could be done, says Martinez-Alier, very easily if one very moderately taxed the rich. He calculates that to replace the fuel used by the 3,000 million poor people in the world, we require about 200 million barrels of oil a year. Now this is less than a quarter of the United States' annual consumption. But the bitter irony is that 'oil at $15 [or even $ 50] a barrel is so cheap that it can be wasted by rich countries, but too expensive to be used as domestic fuel by the poor'. The solution is simple—namely, that oil consumption in the rich countries should be taxed, while the use of LPG or kerosene for fuel in the poor countries should be subsidized. Thus,to allow the poor to ascend but one step up the hierarchies of resource consumption requires a very moderate sacrifice by the rich. In the present climate, however, any proposal with even the slightest hint of redistribution would be shot down as smacking of 'socialism'. But this might change, as (and when) conflicts over consumption begin to sharpen, as they assuredly shall. Within countries, access to water, land, forest and mineral resources will be fiercely fought over between contending groups. Between countries, there will be bitter arguments about the 'environmental space' occupied by the richer nations.

As these divisions become more manifest, the global replicability of North Atlantic styles of

living shall be more directly and persistently challenged. Sometime in the middle decades of the 21st century, John Kenneth Galbraith's great unasked question 'How Much Should a Country Consume?'—with its Gandhian corollary, 'How Much Should a Person Consume?'—will come, finally, to dominate the intellectual and political debates of the time.

The Ecological Crisis as a Crisis of Character by Wendell Berry

Chapter 2 from The Unsettling of America: Culture and Agriculture, 1977

In July of 1975 it was revealed by William Rood in the *Los Angeles Times* that some of our largest and most respected conservation organizations ownedstock in the very corporations and industries that have been notorious for their destructiveness and for their indifference to the concerns of conservationists. The Sierra Club, for example, had owned stocks and bonds in Exxon, General Motors, Tenneco, steel companies "having the worst pollution records in the industry," Public Service Company of Colorado, "strip-mining firms with 53 leases covering nearly 180,000 acres and pulp-mill operators cited by environmentalists for their poor water pollution controls."

These investments proved deeply embarrassing once they were made public, but the Club's officers responded as quickly as possible by making appropriate changes in its investment policy. And so if it were only a question of policy, these investments could easily be forgotten, dismissed as abetrrations of the sort that inevitably turn up now and again in the workings of organizations. The difficulty is that, although the investments were absurd, they were *not* abberrant; they were perfectly representative of the modern character. These conservation groups were behaving with a very ordinary consistency; they were only doing as organizations what many of their members were, and are, doing as individuals. They were making convenience of enterprises that they knew to be morally, and even practically, indefensible.

We are dealing, then, with an absurdity that is not a quirk or an accident, but is fundamental to our character as a people. The split between what we think and what we do is profound. It is not just possible, it is altogether to be expected, that our society would produce conservationists who invest in strip-mining companies, just as it must inevitably produce asthmatic executives whose industries pollute the air and vice-presidents of pesticide corporations whose children are dying of cancer. And these people will tell you that this is the way the "real world" works. They will pride themselves on their sacrifices for "our standard of living." They will call themselves "practical men" and "hardheaded realists." And they will have their justifications in abundance from intellectuals, college professors, clergymen, politicians. The viciousness of a mentailty that can look complacently upon disease as "part of the cost" would be obvious to any child. But this is the "realism" of millions of modern adults.

There is no use pretending that the contradiction between what we think or say and what we do is a limited phenomenon. There is no group of the extra-intelligent or extra-concerned or extra-virtuous that is exempt. I cannot think of any American whom I know or have heard of, who is not contributing in some way to destruction. The reason is simple: to live undesctructively in an economy that is overwhelmingly destructive would require of any one of us, or of any small group of us, a great deal more work than we have yet been able to do. How could we divorce ourselves completelyand yet responsibly from the technologies and powers that are destroying our planet? The answer is not yet thinkable, and it will not be thinkable for some time—even though there are now groups and families and persons everywhere in the country who have begun the labor of thinking it.

And so we are by no means divided, or readily divisible, into environmental saints and sinners. But there *are* legitimate distinctions that need to be made. These are distinctions of degree and of consciousness. Some people are less destructive than others, and some are more conscious of their destructiveness than others. For some, their involvement in pollution, soil depletion, strip-mining, deforestation, industrial

and commercial waste is simply a "practical" compromise, a necessary "reality," the price of modern comfort and convenience. For others, this list of involvements is an agenda for thought and work that will produce remedies.

People who thus set their lives against the destruction have necessarily confronted in themselves the absurdity that they have recognized in their society. They have first observed the tendency of modern organizations to perform in opposition to their stated purposes. They have seen governments that expoit and oppress the people they are sworn to serve and protect, medical procedures that produce ill health, schools that preserve ignorance, methods of transportation that, as Ivan Illich says, have "created more distances than they... bridge." And they have seen that these public absurdities are, and can be, no more than the aggregate result of private absurdities; the corruption of community has its source in the corruption of character. This realization has become the typical moral crisis of our time. Once our personal connection to what is wrong becomes clear, then we have to choose: we can go on as before, recognizing our dishonesty and living with it the best we can, or we can begin the effort to change the way we think and live.

The disease of the modern character is specialization. Looked at from the standpoint of the social *system*, the aim of specialization may seem desirable enough. The aim is to see that the responsibilities of government, law, medicine, engineering, agriculture, education, etc., are given into the hands of the most skilled, best prepared people. The difficulties do not apear until we look at specialization from the opposite standpoint—that of ilndividual persons. We then begin to see the grotequery—indeed, the impossibility—of an idea of community wholeness that divorces itself from any idea of personal wholeness.

The first, and best known, hazard of the specialist system is that it produces specialists—people who are elaborately and expensively trained *to do one thing*. We get into absurdity very quickly here. There are, for instance, educators who have nothing to teach, communicators who have nothing to say, medical doctors skilled at expensive cures for diseases that they have no skill, and no interest, in preventing. More common, and more damaging, are the inventors, manufacturers, and salesmen of devices who have no concern for the possible effects of those devices. Specialization is thus seen to be a way of institutionalizing, justifying, and paying highly for a calamitous dis-integration and scattering-out of the various functions of the character: workmanship, care, conscience, responsibility.

Even worse, a system of specialization requires the abdication to specialists of various competences and responsibilities that were once personal and universal. Thus, the average—one is tempted to say, the ideal—American citizen now consigns the problem of food production to agriculturalists and "agribusinessmen," the problem of health to doctors and sanitation experts, the problems of conservation to conservationists, and so on. This supposedly fortunate citizen is therefore left with only two concerns: making money and entertaining himself. He earns money, typically, as a specialist, working an eight-hour day at a job for the quality or consequences of which somebody else—or, perhaps more typcially, nobody else—will be responsible. And not surprisingly, since he can do so little else for himslef, he is even unable to entertain hiself, for there exists an enormous industry of exorbitantly expensive specialists whose purpose is to entertain him.

The beneficiary of this regime of specialists ought to be the happiest of mortals—or so we are expected to believe. *All* of his vital concerns are in the hands of certified experts. He is a certified expert himself and as such he earns more money in a year than all his great-grandparents put together. Between stints at his job he has nothing to do but mow his lawn with a sit-down lawn mower, or watch other certified experts on television. At suppertime he may eat a tray of ready-prepared food, which he and his wife (also a certified expert) procure a thte cost only of money, transportation, and the pushing of a button. For a few minutes between supper and sleep he may catch a glimpse of his children, who since breakfasts have been in the care of education experts, basketball or marching-band experts, or perhaps legal experts.

The fact is, however, that this is probably the most unhappy average citizen in the history of the world. He has not the power to provide himself with anything but money, and his money is inflating like a balloon and drifting away, subject to historical circumstances and the power of other people. From morning to night he does not touch anything that he has produced himself, in which he can take pride. For all his leisure and recreation, he feels bad, he looks bad, he is overweight, his health is poor. His air, water, and food are all known to contain poisons. There is a fair chance that he will die of suffocation. He suspects that his love life is not as fulfilloing as other people's. He wishes that he had been born sooner, or later. He does not know why his children are the way they are. He does not understand what they say. He does not care much and does know whow why he does not care. He doesnot know what his wife wants or what he wants. Certain advertisements and pictures in magazines make him suspect that he is basically unattractive. He feels that all his possessions are under threat of pillage. He does not know what he would do if he lost his job, if the economy failed, if the utility companies failed, if the police went on strike, if the truckers went on strike, if his wife left him, if his children ran away, if he should be found to be incurably ill. And for these anxieties, of course, he consults certified experts, who in turn consult certified experts about *their* anxieties.

It is rarely considered that this average citizen is anxious because he *ought* to be— because he stil has some gumption that he has not yet given up in deference to the experts. He outh to be anxious, because he is helpless. That he is dependent upon so many specialists, the beneficiary of so much expert help, can only mean that he is a captive, a potential victim. If he lives by the competence of so many other people, then he lives also by their indulgence; his own will and his own reasons to live are made subordinate to the mere tolerance of everybody else. He has *one* chance to live what he conceives to be his life: his own small specialty within a delicate, tense, everywhere-strained system of specialties.

From a public point of view, the specialist system is a failure because, though everything is done by an expert, very litte is done well. Our typical industrial or professional product is both ingenious and shoddy. The specialist system fails from a personal point of view because a person who can do only one thing can do virtually nothing for himself. In living in the world by his own will and skill, the stupidest peasant or tribesman is more competent than the most intelligent worker or technician or intellectual in a society of specialists.

What happens under the rule of specialization is that, though society becomes more and more intricate, it has less and less structure. It becomes more and more organized, but less and less orderly. The community disintegrates because it loses the necessary understandings, forms, and enactments of the relations among materials and processes, principles and actions, ideals and realities, past and present, present and future, men and women, body and spirit, city and country, civilzation and wilderness, growth and decay, life and death—just as the individual character loses the sense of a responsible involvement in these relations. No longer does human life rise from the earth like a pyramid, broadly and sonsiderately founded upon its sources. Now it scatters itself out in a reckless horizontal sprawl, like a disorderly city whose suburbs and pavements destroy the fields.

The concept of country, homeland, dwelling place becomes simplified as "the environment"— that is, what surrounds us. Once we see our place, our part of the world, as surrounding us, we have already made a profound division between it and ourselves. We have given up the understanding-dropped it out of our language and so out of our thought— that we and our country create one another, depend on one another, are literally part of one another; that our land passes in and out of our bodies just as our bodies pass in and out of our land; that as we and our land are part of one another, so all who are living as neighbors here, human and plant and animal, are part of one another, and so cannot possibly flourish alone; that, therefore, our culture must be our response to our place, our culture and our place are images of each other and inseparable from each other, and so neither can be better than the other.

Because by definition they lack any such sense of mutuality or wholeness, our specializations subsist on conflict with one another. The rule is never to cooperate, but rather to follow one's own interest as far as possible. Checks and balances are all applied externally, by opposition, never by self-restraint. Labor, management, the military, the government, etc., never forbear until their excesses arouse enough opposition to *force* them to do so. The good of the whole of Creation, the world and all its creatures together, is never a consideration because it is never thought of; our culture now simply lacks the means for thinking of it.

It is for this reason that none of our basic problems is ever solved. Indeed, it is for this reason that our basic problems are getting worse. The specialists are profiting too well from the symptoms, evidently, to be concerned about cures— just as the myth of imminent cure (by some "breakthrough" of science or technology) is so lucrative and all-justifying as to foreclose any possibility of an interest in prevention. The problems thus become the stock in trade of specialists. The so-called professions survive by endlessly "processing" and talking about problems that they have neither the will nor the competence to solve. The doctor who is interested in disease but not in health is clearly in the same category with the conservationist who invests in the destruction of what he otherwise intends to preserve. They both have the comfort of "job security," but at the cost of ultimate futility.

One of the most troubling characteristics of the specialist mentality is its use of money as a kind of proxy, its willingness to transmute the powers and functions of life into money. "Time is money" is one of its axioms and the source of many evils— among them the waste of both time and money. Akin to the idea that time is money is the concept less spoken but as commonly assumed, that we may be adequately represented by money. The giving of money has thus become our characteristic virtue.

But to give is not to do. The money is given in *lieu* of action thought, care, time. And it is no remedy for the fragmentation of character and consciousness that is the consequence of specialization. At the simplest, most practical level, it would be difficult for most of us to give enough in donations to good causes to compensate for, much less remedy, the damage done by the money that is taken from us and used destructively by various agencies of the government and by the corporations that hold us in captive dependence on their products. More important, even if we *could* give enough to overbalance the official and corporate misuse of our money, we would still not solve the problem: the willingness to be represented by money involves a submission to the modern divisions of character and community. The remedy safeguards the disease.

This has become, to some extent at least, an argument against institutional solutions. Such solutions necessarily fail to solve the problems to which they are addressed because, by definition, they cannot consider the real causes. The only real, practical, hope-giving way to remedy the fragmentation that is the disease of the modern spirit is a small and humble way— a way that a government or agency or organization or institution will never think of, though a *person* may think of it: one must begin in one's own life the private solutions that can only in *turn* become public solutions.

If, for instance, one is aware of the abuses and extortions to which one is subjected as a modern consumer, then one may join an organization of consumers to lobby for consumer-protection legislation. But in joining a consumer organization, one defines oneself as a consumer *merely* , and a mere consumer is by definition a dependent, at the mercy of the manufacturer and the salesman, but of the agency that enforces the law, and is at its mercy as well. The law enacted may be a good one, and the enforcers all honest and effective; even so, the consumer will understand that one result of his effort has been to increase the number of people of whom he must beware.

The consumer may proceed to organization and even to legislation by considering only his "rights." And most of the recent talk about consumer protection has had to do with the consumers rights. Very little indeed has been said about the consumer's responsibilities. It may be that whereas one's

rights may be advocated and even "served" by an organization, one's responsibilities cannot. It may be that when one hands one's responsibilities to an organization, one becomes by that divestiture irresponsible. It may be that responsibility is intransigently a personal matter —that a responsibility can be fulfilled or failed, but cannot be got rid of.

If a consumer begins to think and act in consideration of his responsibilities, then he vastly increases his capacities as a person. And he begins to be effective in a different way —a way that is smaller perhaps, and certainly less dramatic, but sounder, and able sooner or later to assume the force of example.

A responsible consumer would be a critical consumer, would refuse to purchase the less good. And he would be a moderate consumer; he would know his needs and would not purchase what he did not need; he would sort among his needs and study to reduce them. These things, of course, have been often said, though in our time they have not been said very loudly and have not been much heeded. In our time the rule among consumers has been to spend money recklessly. People whose governing habit is the relinquishment of power, competence, and responsibility, and whose characteristic suffering is the anxiety of futility, make excellent spenders. They are the ideal consumers. By inducing in them little panics of boredom, powerlessness, sexual failure, mortality, paranoia, they can be made to buy (or vote for) virtually anything that is "attractively packaged." The advertising industry is founded upon this principle.

What has not been often said, because it did not need to be said until fairly recent times, is that the responsible consumer must also be in some way a producer. Out of his own resources and skills, he must be equal to some of his own needs. The household that prepares its own meals in its own kitchen with some intelligent regard for nutritional value, and thus depends on the grocer only for selected raw materials, exercises an influence on the food industry that reaches from the store all the way back to the seedsman. The household that produces some or all of its own food will have a proportionately greater influence. The household that can provide some of its own pleasures will not be helplessly dependent on the entertainment industry, will influence it by not being helplessly dependent on it, and will not support it thoughtlessly out of boredom.

The responsible consumer thus escapes the limits of his own dissatisfaction. He can choose, and exert the influence of his choosing, because he has given himself choices. He is not confined to the negativity of his complaint. He influences the market by his freedom. This is no specialized act, but an act that is substantial and complex, both practically and morally. By making himself responsibly free, a person changes both his life and his surroundings.

It is possible, then, to perceive a critical difference between responsible consumers and consumers who are merely organized. The responsible consumer slips out of the consumer category altogether. He is a responsible consumer incidentally, almost inadvertently; he is a responsible consumer because he lives a responsible life.

The same distinction is to be perceived between organized conservationists and responsible conservationists. (A responsible consumer *is* , of course, a responsible conservationist.) The conservationists who are merely organized function as specialists who have lost sight of basic connections. Conservation organizations hold stock in exploitive industries because they have no clear perception of, and therefore fail to be responsible for, the connections between what they say and what they do, what they desire and how they live.

The Sierra Club, for instance, defines itself by a slogan which it prints on the flaps of its envelopes. Its aim, according to the slogan, is "...to explore, enjoy, and protect the nation's scenic resources... " To some extent, the Club's current concerns and attitudes belie this slogan. But there is also a sense in which the slogan defines the limits of organized conservation— some that have been self-imposed, others that are implicit in the nature of organization.

The key word in the slogan is "scenic." As used here, the word is a fossil. It is left over from a time when our comforts and luxuries were accepted simply as the rewards of progress to an ingenious, forward-looking people, when no

threat was perceived in urbanization and industrialization and when conservation was therefore an activity oriented toward vacations. It was “good to get out of the city” for a few weeks or weekends a year, and there was understandable concern that there should remain pleasant places to go. Some of the more adventurous vacationers were even aware of places of unique beauty that would be defaced if they were not set aside and protected. These people were effective in their way and within their limits, and they started the era of wilderness conservation. The results will give us abundant reasons for gratitude as long as we have sense enough to preserve them. But wilderness conservation did little to prepare us either to understand or to oppose the general mayhem of the all-outdoors that the industrial revolution has finally imposed upon us.

Wilderness conservation, we can now see, is specialized conservation. Its specialization is memorialized, in the Sierra Club's slogan, in the word “scenic.” A scene is a place “as seen by a viewer.” It is a “view.” The appreciator of a place perceived as scenic is merely its observer, by implication both different and distant or detached from it. The connoisseur of the scenic has thus placed strict limitations both upon the sort of place he is interested in and upon his relation to it.

But even if the slogan were made to read ” ... to explore, enjoy, and protect the nation's resources ... ,” the most critical concern would still be left out. For while conservationists are exploring, enjoying, and protecting the nation's resources, they are also using them. They are drawing their lives from the nation's resources, scenic and unscenic. If the resolve to explore, enjoy, and protect does not create a moral energy that will define and enforce responsible use, then organized conservation will prove ultimately futile. And this, again, will be a failure of character.

Although responsible use may be defined, advocated, and to some extent required by organizations, it cannot be implemented or enacted by them. It cannot be effectively enforced by them. The use of the world is finally a personal matter, and the world can be preserved in health only by the forbearance and care of a multitude of persons. That is, the possibility of the world's health will have to be defined in the characters of persons as clearly and as urgently as the possibility of personal “success” is now so defined. Organizations may promote this sort of forbearance and care, but they cannot provide it.

The Use of Energy by Wendell Berry

Chapter 6 from The Unsettling of America, 1977

“Energy,” said William Blake, “is Eternal Delight.” And the scientific prognosticators of our time have begun to speak of the eventual opening, for human use, of “infinite” sources of energy. In speaking of the use of energy, then, we are speaking of an issue of religion, whether we like it or not.

Religion, in the root sense of the word, is what binds us back to the source of life. Blake also said that “Energy is the only life ... ” And it is superhuman in the sense that humans cannot create it. They can only refine or convert it. And they are bound to it by one of the paradoxes of religion: they cannot have it except by losing it; they cannot use it except by destroying it. The lives that feed us have to be killed before they enter our mouths; we can only use the fossil fuels by burning them up. We speak of electrical energy as “current": it exists only while it runs away; we use it only by delaying its escape. To receive energy is at once to live and to die.

Perhaps from an “objective” point of view it is incorrect to say that we can destroy energy; we can only change it. Or we can destroy it only in its current form. But from a human point of view, we can destroy it also by wasting it— that is, by changing it into a form in which we cannot use it again. As users, we can preserve energy in cycles of use, passing it again and again through the same series of forms; or we can waste it by using it once in a way that makes it irrecoverable. The human pattern of cyclic use is exemplified in the small Oriental peasant farms described in F. H. King's Farmers of Forty Centuries, in which

all organic residues, plant and animal and human were returned to the soil, thus keeping intact the natural cycle of "birth, growth, maturity, death, and decay" that Sir Albert Howard identified as the "Wheel of Life." The pattern of wasteful use is exemplified in the modern sewage system and the internal combustion engine. With us, the wastes that escape use typically become pollutants. This kind of use turns an asset into a liability.

We have two means of bringing energy to use: by living things (plants, animals, our own bodies) and by tools (machines, energy-harnesses). For the use of these we have skills or techniques. All three together comprise our technology. Technology joins us to energy, to life. It is not, as many technologists would have us believe, a simple connection. Our technology is the practical aspect of our culture. By it we enact our religion, or our lack of it.

I began thinking about this by trying to make a clear distinction between the living organisms and skills of technology and its mechanisms, and to say that the living aspect was better than the mechanical. I found it impossible to make such a distinction. I thought of going back through history to a point at which such a distinction would become possible, but found that the farther back I went the less possible it became. When people had no machines other than throwing stones and dubs, their technology was all of a piece. It stayed that way through their development of more sophisticated tools, their mastery of fire, their domestication of plants and animals. Lives, skills, and tools were culturally indivisible.

The question at issue, then, is not of distinction but of balance. The ideal seems to be that the living part of our technology should not be devalued or overpowered by the mechanical. Because the biological limits are probably narrower than the mechanical, this calls for restraint on the proliferation of machines.

At some point in history the balance between life and machinery was overthrown. I think this began to happen when people began to desire long-term stores or supplies of energy— that is, when they began to think of energy as volume as welI as force— and when machines ceased to enhance or elaborate skill and began to replace it.

Though it seems impossible to distinguish between the living and the mechanical aspects of technology, it is possible to distinguish between two kinds of energy: that which is made available by living things and that which is made available by machines.

The energy that comes from living things is produced by combining the four elements of medieval science: earth, air, fire (sunlight), and water. This is current energy. Though it is possible to speak of a reserve of such energy, as Sir Albert Howard does, in the sense of a surplus of fertility, it is impossible to conceive of a reservoir of it. It is not available in long-term supplies; in any form in which it can be preserved, as in humus, in the flesh of living animals, in cans or freezers or grain elevators, it still perishes fairly quickly in comparison, say, to coal or plutonium. It lasts over a long term only in the living cycle of birth, growth, maturity, death, and decay. The technology appropriate to the use of this energy, therefore, preserves its cycles. It is a technology that never escapes into its own logic but remains bound in analogy to natural law.

The energy that is made available, and consumed, by machines is typically energy that can be accumulated in stockpiles or reservoirs. Energy from wind and water obviously does not fit this category, but it suggests the possibility of bigger and better storage batteries, which one must assume will sooner or later be produced. And, of course, we already store water power behind hydroelectric dams. This mechanically derived energy is supposed to have set people free from work and other difficulties once considered native to the human condition. Whether or not it has done so in any meaningful sense is questionable— in my opinion, it is highly questionable. But there is no doubt that this sort of energy has freed machinery from the natural restraints that apply to the use of organic energy. We now have a purely mechanical technology that is very nearly a law unto itself.

And yet, in the long term, this liberation of the machine is illusory. Mechanical technology is based on quantities of materials and fuels that are finite. If the prophets of science foresee "

limitless abundance" and "infinite resources," one must assume that they are speaking figuratively, meaning simply that they cannot comprehend how much there may be. In that sense, they are right: there are sources of energy that, given the necessary machinery, are inexhaustible as far as we can see.

A great difficulty, which these cheerful prophets do not acknowledge at all, is hat we are trustworthy only so far as we can see. The length of our vision is our moral boundary. Even if these foreseen supplies are limitless, we can use them only within limits. We can bring the infinite to bear only within the finite bounds of our biological circumstance and our understanding. It is already certain that our planet alone— not to mention potential sources in space —can provide us with more energy and materials than we can use safely or well. By our abuse of our finite sources, our lives and all life are already in danger. What might we bring into danger by the abuse of "infinite" sources?

The difficulty with mechanically extractable energy is that so far we have been unable to make it available without serious geological and ecological damage, or to effectively restrain its use, or to use or even neutralize its wastes. From birth, right now, we are carrying the physical and the moral poisons produced by our crude and ignorant use of this sort of energy. And the more abundant the energy of this sort that we use, the more abounding must be the consequences.

It is typical of the mentality of our age that we cannot conceive of infinity except as an enormous quantity. We cannot conceive of it as orderly process, as pattern or cycle, as shapeliness. We conceive of it as inconceivable quantity— that is, as the immeasurable. Any quantity that we cannot measure we assume must be infinite. That is about as sophisticated as saying that the world is flat because it looks flat. The talk about "infinite" resources is thus a kind of scientific-sounding foolishness. And it involves some quaint paradoxes. If we think, for instance, of infinite energy as immeasurable fuel, we are committed in the same thought to its destruction, for fuel must be destroyed to be used. We thus arrive at the curious idea of a destructible infinity. Furthermore, we have become guilty not only of the demonstrably silly assumption that we know what to do with infinite energy, but also of the monstrous pride of thinking ourselves somehow entitled to undertake infinite destruction.

This mechanically rendered infinitude of energy is an ambition surrounded by terrific problems. Such energy cannot be used constructively without at the same time being used destructively. And which way the balance will finally fall is a question that baffles the best minds. Nobody knows what will be the ultimate consequences of our present use of fossil fuel, much less those of our future use of atomic fuel. The sun may prove an "infinite" source of energy —at least one that may last several billion years. But who will control the use of that energy? How and for what purposes will it be used? How much can be used without overthrowing ecological or social of political balances? Nobody knows.

The energy that is made available to us by living things, on the other hand, is made available not as an inconceivable quantity, but as a conceivable pattern. And for the mastery of this pattern— that is, the ability to see its absolute importance and to preserve it in use —one does not need a Ph.D. or a laboratory or a computer. One can master it in this sense, in fact, without having any analytic or scientific understanding of it at all. It was mastered, better than our scientific experts have mastered it, by "primitive" peasants and tribesmen thousands of years before modern science. It is conceivable not so much to the analytic intelligence, to which it may always remain in part mysterious, as to the imagination, by which we perceive, value, and imitate order beyond our understanding.

We cannot create biological energy any more than we can create atomic or fossil fuel energy. But we can preserve it in use; we can probably even augment it in use, in the sense that, by proper care, we can "build" soil. We cannot do that with machine-derived energy. This is an extremely important difference, with respect both to the energy economy itself and to the moral order that is undoubtedly determined by, as much as it determines, the value we put on energy.

The moral order by which we use machine-derived energy is comparatively simple.

Whatever uses this sort of energy works simply as a conduit that carries it beyond use: the energy goes in as "fuel" and comes out as "waste." This principle sustains a highly simplified economy having only two functions: production and consumption.

The moral order appropriate to the use of biological energy, on the other hand, requires the addition of a third term: production consumption, and return. It is the principle of return that complicates matters, for it requires responsibility, care, of a different and higher order than that required by production and consumption alone, and it calls for methods and economies of a different kind. In an energy economy appropriate to the use of biological energy, all bodies, plant and animal and human, are joined in a kind of energy community. They are not divided from each other by greedy, "individualistic" efforts to produce and consume large quantities of energy, much less to store large quantities of it. They are indissolubly linked in complex patterns of energy exchange. They die into each other's life, live into each other's death. They do not consume in the sense of using up. They do not produce waste. What they take in they change,but they change it always into a form necessary for its use by a living body of another kind. And this exchange goes on and on, round and round, the Wheel of Life rising out of the soil, descending into it, through the bodies of creatures.

The soil is the great connector of lives, the source and destination of all. It is the healer and restorer and resurrector, by which disease passes into health, age into youth, death into life. Without proper care for it we can have no community, because without proper care for it we can have no life.

It is alive itself. It is a grave, too, of course. Or a healthy soil is. It is full of dead animals and plants, bodies that have passed through other bodies. For except for some humans— with their sealed coffins and vaults, their pathological fear of the earth —the only way into the soil is through other bodies. But no matter how finely the dead are broken down, or how many times they are eaten, they yet give into other life. If a healthy soil is full of death it is also full of life: worms, fungi, microorganisms of all kinds, for which, as for us humans, the dead bodies of the once living are a feast. Eventually this dead matter becomes soluble, available as food for plants, and life begins to rise up again, out of the soil into the light. Given only the health of the soil, nothing that dies is dead for very long. Within this powerful economy, it seems that death occurs only for the good of life. And having followed the cycle around, we see that we have not only a description of the fundamental biological process, but also a metaphor of great beauty and power. It is impossible to contemplate the life of the soil for very long without seeing it as analogous to the life of the spirit. No less than the faithful of religion is the good farmer mindful of the persistence of life through death, the passage of energy through changing forms.

And this living topsoil— living in both the biological sense and in the cultural sense, as metaphor —is the basic element in the technology of farming.

It is the nature of the soil to be highly complex and variable, to conform very inexactly to human conclusions and rules. It is itself a pattern of inexhaustible intricacy, and so it is easily damaged by the imposition of alien patterns. Out of the random grammar and lexicon of possibilities— geological, topographical, climatological, biological — the soil of any one place makes its own peculiar and inevitable sense. It makes an order, a pattern of forms, kinds, and processes, that includes any number of offsets and variables. By its permeability and absorbency, for example, the healthy soil corrects the irregularities of rainfall; by the diversity of its vegetation it protects against both disease and erosion. Most farms, even most fields, are made up of different kinds of soil patterns or soil sense. Good farmers have always known this and have used the land accordingly; they have been careful students of the natural vegetation, soil depth and structure, slope and drainage. They are not appliers of generalizations, theoretical or methodological or mechanical. Nor are they the active agents of their own economic will, working their way upon an inert and passive mass. They are responsive partners in an intimate and mutual relationship.

Because the soil is alive, various, intricate, and because its processes yield more readily to imitation than to analysis, more readily to care than to coercion, agriculture can never be an exact science. There is an inescapable kinship between farming and art, for farming depends as much on character, devotion, imagination, and the sense of structure, as on knowledge. It is a practical art.

But it is also a practical religion, a practice of religion, a rite. By farming we enact our fundamental connection with energy and matter, light and darkness. In the cycles of farming, which carry the elemental energy again and again through the seasons and the bodies of living things, we recognize the only infinitude within reach of the imagination. How long this cycling of energy will continue we do not know; it will have to end, at least here on this planet, sometime within the remaining life of the sun. But by aligning ourselves with it here, in our little time within the unimaginable time of the sun's burning, we touch infinity; we align ourselves with the universal law that brought the cycles into being and that will survive them.

The word agriculture, after all, does not mean “agriscience,” much less “agribusiness.” It means “cultivation of land.” And cultivation is at the root of the sense both of culture and of cult. The ideas of tillage and worship are thus joined in culture. And these words all come from an Indo-European root meaning both “to revolve” and “to dwell.” To live, to survive on the earth, to care for the soil, and to worship, all are bound at the root to the idea of a cycle. It is only by understanding the cultural complexity and largeness of the concept of agriculture that we can see the threatening diminishments implied by the term “agribusiness."

That agriculture is in so complex a sense a cultural endeavor— and that food is therefore a cultural product — would be regarded as heresy by most of the agencies, institutions, and publications of modern farming. The spokesmen of the official reckoning would doubtless respond that they are not cultural but scientific, that they are specialists of “agriscience.” If agriculture is acknowledged to have anything to do with culture, then its study has to include people. But the agriculture experts ruled people out when they made their discipline a specialty— or, rather, when they sorted it into a collection of specialties —and moved it into its own “college” in the university. This specialty collection is interested in soils (in the limited sense of soil chemistry), in plants and animals, and in machines and chemicals. It is not interested in people.

But what respect is one to give to a science that parcels a unified discipline into discrete fragments, that has no interest in its effects if they are not immediately measurable in a laboratory, and that is founded upon the waste of topsoil, energy, and manpower, and upon the dissolution of communities? Not much. And it has been my experience that, with respect to this science, farmers are divided into two kinds: those who endanger their solvency, and often their sanity, by trusting it and those who hold it in contempt.

In the view of the experts, then, agriculture is not only not a concern of culture, but not even a concern of science, for they have abandoned interest in the health of the farming communities on the one hand and in the health of the land on the other. They appear to have concluded that agriculture is purely a commercial concern; its purpose is to provide as much food as quickly and cheaply and with as few man-hours as possible and to be a market for machines and chemicals. It is, after all, “agribusiness"— not the land or the farming people —that now benefits most from agricultural research and that can promote humble academicians to highly remunerative and powerful positions in corporations and in government. Former Secretary Earl Butz’s career exemplifies the predominant direction of interest of the agriculture specialist. According to Lauren Soth, writing in the Nation, “Butz is the perfect example of the agribusiness, commercial-farming, agricultural-education establishment man. When dean of agriculture at Purdue University, he also sat on the boards of directors of the Ralston-Purina Co., the J. l. Case Co., International Minerals and Chemicals Corp ., Stokely-Van Camp Co. and Standard Life Insurance Co. of Indiana.” By such men and such careers the land-grant college system, originally

meant to enhance the small-farm possibility, has been captured for the corporations.

The discipline of agriculture— the "great subject," as Sir Albert Howard called it, of health in soil, plant, animal, and man" —has been reduced to fit first the views of a piecemeal "science" and then the purposes of corporate commerce. I can see no possibility of a doubt that this is true, though I cannot explain exactly how it happened. But it seems to me that the way was prepared when the specialized shapers or makers of agricultural thought simplified their understanding of energy and began to treat current, living, biological energy as if it were a store of energy extractable by machinery. At that point the living part of technology began to be overpowered by the mechanical. The machine was on its own, to follow its own logic of elaboration and growth apart from life, the standard that had previously defined its purposes and hence its limits. Let loose from any moral standard or limit, the machine was also let loose in another way: it replaced the Wheel of Life as the governing cultural metaphor. Life came to be seen as a road, to be traveled as fast as possible, never to return. Or, to put it another way, the Wheel of Life became an industrial metaphor; rather than turning in place, revolving in order to dwell, it began to roll on the "highway of progress" toward an ever-receding horizon. The idea, the responsibility, of return weakened and disappeared from agricultural discipline. Henceforth, any resource would be regarded as an ore.

If agriculture is founded upon life, upon the use of living energy to serve human life, and if its primary purpose must therefore be to preserve the integrity of the life cycle, then agricultural technology must be bound under the rule of life. It must conform to natural processes and limits rather than to mechanical or economic models. The culture that sustains agriculture and that it sustains must form its consciousness and its aspiration upon the correct metaphor of the Wheel of Life. The appropriate agricultural technology would therefore be diverse; it would aspire to diversity; it would enable the diversification of economies, methods, and species to conform to the diverse kinds of land. It would always use plants and animals together. It would be as attentive to decay as to growth, to maintenance as to production. It would return all wastes to the soil, control erosion, and conserve water. To enable care and devotion and to safeguard the local communities and cultures of agriculture, it would use the land in small holdings. It would aspire to make each farm so far as possible the source of its own operating energy, by the use of human energy, work animals, methane, wind or water or solar power.

The mechanical aspect of the technology would serve to harness or enhance the energy available on the farm. It would not be permitted to replace such energies with imported fuels, to replace people, or to replace or reduce human skills.

The damages of our present agriculture all come from the determination to use the life of the soil as if it were an extractable resource like coal, to use living things as if they were machines, to impose scientific (that is, laboratory) exactitude upon living complexities that are ultimately mysterious.

If animals are regarded as machines, they are confined in pens remote from the source of their food, where their excrement becomes, instead of a fertilizer, first a "waste" and then a pollutant. Furthermore, because confinement feeding depends so largely on grains, grass is removed from the rotation of crops and more land is exposed to erosion.

If plants are regarded as machines, we wind up with huge monocultures, productive of elaborate ecological mischiefs, which are in turn productive of agricultural mischief: monocultures are much more susceptible to pests and diseases than mixed cultures and are therefore more dependent on chemicals.

If the soil is regarded as a machine, then its life, its involvement in living systems and cycles, must perforce be ignored. It must be treated as a dead, inert chemical mass. If its life is ignored, then so must be the natural sources of its fertility — and not only ignored, but scorned. Alfalfa and the clovers, according to some of the most up-to-date practitioners, are "weeds"; the only legitimate source of nitrogen is the fertilizer manufacturer. And animal manures are "wastes"; "efficiency" cannot use them. Not long ago I found that the manure from a saddle-horse barn

belonging to the University of Kentucky was simply being dumped. When I asked why it was not used somewhere on the farm, I was told that it would interfere with the College of Agriculture's experiments. The result is absurd: our agriculture, potentially capable of a large measure of independence, is absolutely dependent on petroleum, on the oil companies, and on the vagaries of politics.

If people are regarded as machines, they must be regarded as replaceable by other machines. They are regarded, in other words, as dispensable. Their place on the farm is safe only as long as they are mechanically necessary.

In modern agriculture, then, the machine metaphor is allowed to usurp and wipe from consideration not merely some values, but the very issue of value. Once the expert's interest is focused on the question of "what will work" within the exclusive confines of his theoretical model, values are no longer of any concern whatever. The confines of his specialty enable him to impose a biological totalitarianism on—he thinks, since he is an agricultural expert —the farm. When he leaves his office or laboratory he will, he assumes, go "home" to value.

But then it must be asked if we can remove cultural value from one part of our lives without destroying it also in the other parts. Can we justify secrecy, lying, and burglary in our so-called intelligence organizations and yet preserve openness, honesty, and devotion to principle in the rest of our government? Can we subsidize mayhem in the military establishment and yet have peace, order, and respect for human life in the city streets? Can we degrade all forms of essential work and yet expect arts and graces to flourish on weekends? And can we ignore all questions of value on the farm and yet have them answered affirmatively in the grocery store and the household?

The answer is that, though such distinctions can be made theoretically, they cannot be preserved in practice. Values may be corrupted or abolished in only one discipline at the start, but the damage must sooner or later spread to all; it can no more be confined than air pollution. If we corrupt agriculture we corrupt culture, for in nature and within certain invariable social necessities we are one body, and what afflicts the hand will afflict the brain.

The effective knowledge of this unity must reside not so much in doctrine as in skill. Skill, in the best sense, is the enactment or the acknowledgment or the signature of responsibility to other lives; it is the practical understanding of value. Its opposite is not merely unskillfulness, but ignorance of sources, dependences, relationships.

Skill is the connection between life and tools, or life and machines. Once, skill was defined ultimately in qualitative terms: How well did a person work; how good, durable, and pleasing were his products? But as machines have grown larger and more complex, and as our awe of them and our desire for labor-saving have grown, we have tended more and more to define skill quantitatively: How speedily and cheaply can a person work? We have increasingly wanted a measurable skill. And the more quantifiable skills became, the easier they were to replace with machines. As machines replace skill, they disconnect themselves from life; they come between us and life. They begin to enact out ignorance of value— of essential sources, dependences, and relationships.

The catch is that we cannot live in machines. We can only live in the world, in life. To live, our contact with the sources of life must remain direct: we must eat, drink, breathe, move, mate, etc. When we let machines and machine skills obscure the values that represent these fundamental dependences, then we inevitably damage the world; we diminish life. We begin to "prosper" at the cost of a fundamental degradation.

The digging stick, for example, brought in a profound technological revolution: it made agriculture possible. Its use required skill. But its effect also required skill, and this kind of skill was higher and more complex than the first, for it involved restraint and responsibility. The digging stick made it possible to grow food; that was one thing. It also made it possible, and necessary, to disturb the earth; and that was another thing. The first skill required others that were its moral elaboration: the skill used in disturbing the earth called directly for other

skills that would preserve the earth and restore its fertility.

Until fairly recently, as agricultural tools became more efficient or powerful or both, they required an increase of both kinds of skill. One could do more with stone implements than with sticks, and more with metal implements than with stone implements; the skilled use of these tools enabled one to disturb more ground and so called for further elaboration of the skills of responsibility.

This remained true after the beginning of the use of draft animals. The skills of use had to become much greater, for the human mind had to relate to the animal mind in a new way: not by the magic and cunning of the hunt, but in the practical intricacies of collaboration. And the skills of responsibility had to increase proportionately. More ground could now be disturbed, and so the technology of preservation had to become much larger. Also, the investment of life in work greatly increased; people had to take responsibility not only for their own appetites and excrements but for those of their animals as well.

It was only with the introduction of self-powering machines, and of machine-extracted energy, into the fields that something really new happened to agricultural skills: they began a radical diminishment.

In the first place, it requires more skill to use a team of horses or mules or oxen than to use a tractor. It is more difficult to learn to manage an animal than a machine; it takes longer. Two minds and two wills are involved. A relationship between a person and a work animal is analogous to a relationship between two people. Success depends upon the animal's willingness and upon its health; certain moral imperatives and restraints are therefore pragmatically essential. No such relationship is either necessary or possible with a machine. Within the range of the possible, a machine is directly responsive to human will; it neither starts nor stops because it wants to. A machine has no life, and for this reason it cannot of itself impose any restraint or any moral limit on behavior.

In the second place, the substitution of machines for work animals is justified mainly by their ability to increase the volume of work per man— that is, by their greater speed. But as speed increases, care declines. And so, necessarily, do the skills of responsibility. If this were not so, we would not restrict the speed of traffic in residential areas. We know that there is a limit to the capacity of attention, and that the faster we go the less we see. This law applies with equal force to work; the faster we work the less attention we can pay to its details, and the less skill we can apply to it.

This is true of any productive work, and it has great cultural importance; at present we are all suffering, in various ways, from dependence on goods that are poorly made. But its importance in agricultural production is probably more critical than elsewhere. In any biological system the first principle is restraint— that is, the natural or moral checks that maintain a balance between use and continuity. The life of one year must not be allowed to diminish the life of the next; nothing must live at the expense of the source. Thus, in nature, the food species is dependent on its predator, and pests and diseases are agents of health; so populations are controlled and balanced. In agriculture these natural checks are removed and therefore must be replaced by the skills of responsibility, which have to do with the prevention of erosion, the diversification and rotation of plant and animal species, the return of wastes to the soil, and all the other provisionings of the source. When productive power— that is, speed —in machines replaces the productive skills of people, there is consequent narrowing of attention. The machines are expensive and they run on purchased fuels; they feed upon money. The work of production is immediately profitable, whereas the work of responsibility is not. Once the machine is in the field it creates an economic pressure that enforces haste; the machine concentrates all the energy of the farm and hurries it toward the marketplace. The demands of immediate use eclipse the demands of continuity. As the skills of production decline the skills of responsibility perish.

To argue for a balance between people and their tools, between life and machinery, between biological and machine-produced energy, is to argue for restraint upon the use of machines. The arguments that rise out of the machine metaphor

— arguments for cheapness, efficiency, labor-saving, economic growth, etc. —all point to infinite industrial growth and infinite energy consumption. The moral argument points to restraint; it is a conclusion that may be in some sense tragic, but there is no escaping it. Much as we long for infinities of power and duration, we have no evidence that these lie within our reach, much less within our responsibility. It is more likely that we will have either to live within our limits, within the human definition, or not live at all. And certainly the knowledge of these limits and of how to live within them is the most comely and graceful knowledge that we have, the most healing and the most whole.

The knowledge that purports to be leading us to transcendence of our limits has been with us a long time. It thrives by offering material means of fulfilling a spiritual, and therefore materially unappeasable, craving: we would all very much like to be immortal, infallible free of doubt, at rest. It is because this need is so large and so different in kind from all material means, that the knowledge of transcendence— our entire history of scientific miracles —is so tentative, fragmentary, and grotesque. Though there are undoubtedly mechanical limits, because there are human limits, there is no mechanical restraint. The only logic of the machine is to get bigger and more elaborate. In the absence of moral restraint— and we have never imposed adequate moral restraint upon our use of machines —the machine is out of control by definition. From the beginning of the history of machine-developed energy we have been able to harness more power than we could use responsibly. From the beginning these machines have created effects that society could absorb only at the cost of suffering and disorder.

And so the issue is not of supply but of use. The energy crisis is not a crisis of technology but of morality. We already have available more power than we have so far dared to use. If, like the strip-miners and the "agribusinessmen," we look on all the world as fuel or as extractable energy, we can do nothing but destroy it. The issue is restraint. The energy crisis reduces to a single question: Can we forbear to do anything that we are able to do? Or to put the question in the world of Ivan Illich; Can we, believing in "the effectiveness of power," see "the disproportionately greater effectiveness of abstaining from its use"?

The only people among us that I know of who have answered this question convincingly in the affirmative are the Amish. They alone, as a community, have carefully restricted their use of machine-developed energy, and so have become the only true masters of technology.They are mostly farmers, and they do most of their farm work by hand and by the use of horses and mules. They are pacifists, they operate their own local schools, and in other ways hold themselves aloof from the ambitions of a machine-based society. And by doing so they have maintained the integrity of their families, their community, their religion, and their way of life.They have escaped the mainstream American life of distraction, haste, aimlessness, violence, and disintegration. Their life is not idly wasteful, or destructive. The Amish no doubt have their problems; I do not wish to imply that they are perfect. But it cannot be denied that they have mastered one of the fundamental paradoxes of our condition: we can make ourselves whole only by accepting our partiality, by living within our limits, by being human— not by trying to be gods. By restraint they make themselves whole.

Blue Mountains Constantly Walking by Gary Snyder

from The Practice of the Wild, 1990

Fudo and Kannon

The mountains and rivers of this moment are the actualization of the way of the ancient Buddhas. Each, abiding in its own phenomenal expression, realizes completeness. Because mountains and waters have been active since before the eon of emptiness, they are alive at this moment. Because they have been the self since before form arose, they are liberated and realized.

This is the opening paragraph of Dogen Kigen's astonishing essay Sansuikyo, "Mountains and Waters Sutra," written in the autumn of 1240, thirteen years after he returned from his

visit to Song-dynasty China. At the age of twelve he had left home in Kyoto to climb the well-worn trails through the dark hinoki and sugi (cedar-and-sequoia-like) forests of Mt. Hiei. This three-thousand-foot range at the northeast corner of the Kamo River basin, the broad valley now occupied by the huge city of Kyoto, was the Japanese headquarters mountain of the Tendai sect of Buddhism. He became a novice monk in one of the red-painted shadowy wooden temples along the ridges.

"The blue mountains are constantly walking."

In those days travelers walked. The head monk at the Daitoku-ji Zen monks' hall in Kyoto once showed me the monastery's handwritten "Yearly Tasks" book from the nineteenth century. (It had been replaced by another handwritten volume with a few minor updates for the twentieth century.) These are the records that the leaders refer to through the year in keeping track of ceremonies, meditation sessions, and recipes. It listed the temples that were affiliated with this training school in order of the traveling time it took to get to them: from one day to four weeks' walk. Student monks from even those distant temples usually made a round trip home at least once a year.

Virtually all of Japan is steep hills and mountains dissected by fast shallow streams that open into shoestring valleys and a few wider river plains toward the sea. The hills are generally covered with small conifers and shrubs. Once they were densely forested with a cover of large hardwoods as well as the irregular pines and the tall straight hinoki and sugi. Traces of a vast network of well-marked trails are still found throughout the land. They were tramped down by musicians, monks, merchants, porters, pilgrims, and periodic armies.

We learn a place and how to visualize spatial relationships, as children, on foot and with imagination. Place and the scale of space must be measured against our bodies and their capabilities. A "mile" was originally a Roman measure of one thousand paces. Automobile and airplane travel teaches us little that we can easily translate into a perception of space. To know that it takes six months to walk across Turtle Island/ North America walking steadily but comfortably all day every day is to get some grasp of the distance. The Chinese spoke of the "four dignities"—Standing, Lying, Sitting, and Walking. They are "dignities" in that they are ways of being fully ourselves, at home in our bodies, in their fundamental modes. I think many of us would consider it quite marvelous if we could set out on foot again, with a little inn or a clean camp available every ten or so miles and no threat from traffic, to travel across a large landscape—all of China, all of Europe. That's the way to see the world: in our own bodies.

Sacred mountains and pilgrimage to them is a deeply established feature of the popular religions of Asia. When Dogen speaks of mountains he is well aware of these prior traditions. There are hundreds of famous Daoist and Buddhist peaks in China and similar Buddhist and Shinto-associated mountains in Japan. There are several sorts of sacred mountains in Asia: a "sacred site" that is the residence of a spirit or deity is the simplest and possibly oldest. Then there are "sacred areas"—perhaps many dozens of square miles— that are special to the mythology and practice of a sect with its own set of Daoist or Buddhist deities—miles of paths—and dozens or hundreds of little temples and shrines. Pilgrims might climb thousands of feet, sleep in the plain board guesthouses, eat rice gruel and a few pickles, and circumambulate set routes burning incense and bowing at site after site.

Finally there are a few highly formalized sacred areas that have been deliberately modeled on a symbolic diagram (mandala) or a holy text. They too can be quite large. It is thought that to walk within the designated landscape is to enact specific moves on the spiritual plane (Grapard, 1982). Some friends and I once walked the ancient pilgrimage route of the Omine Yamabushi (mountain ascetics) in Nara prefecture from Yoshino to Kumano. In doing so we crossed the traditional center of the "Diamond-Realm Mandala" at the summit of Mt. Omine (close to six thousand feet) and four hiking days later descended to the center of the "Womb-Realm Man
dala" at the Kumano ("Bear Field") Shrine, deep in a valley. It was the late-June rainy season, flowery and misty. There were little stone shrines

the whole distance—miles of ridges—to which we sincerely bowed each time we came on them. This projection of complex teaching diagrams onto the landscape comes from the Japanese variety of Vajrayana Buddhism, the Shingon sect, in its interaction with the shamanistic tradition of the mountain brotherhood.

The regular pilgrimage up Mt. Omine from the Yoshino side is flourishing—hundreds of colorful Yamabushi in medieval mountain-gear scale cliffs, climb the peak, and blow conches while others chant sutras in the smoky dirt-floored temple on the summit. The long-distance practice has been abandoned in recent years, so the trail was so overgrown it was almost impossible to find. This four-thousand-foot-high direct ridge route makes excellent sense, and I suspect it was the regular way of traveling from the coast to the interior in paleolithic and neolithic times. It was the only place I ever came on wild deer and monkeys in Japan.

In East Asia "mountains" are often synonymous with wilderness. The agrarian states have long since drained, irrigated, and terraced the lowlands. Forest and wild habitat start at the very place the farming stops. The lowlands, with their villages, markets, cities, palaces, and wineshops, are thought of as the place of greed, lust, competition, commerce, and intoxication—the "dusty world." Those who would flee such a world and seek purity find caves or build hermitages in the hills—and take up the practices which will bring realization or at least a long healthy life. These hermitages in time became the centers of temple complexes and ultimately religious sects. Dogen says:

Many rulers have visited mountains to pay homage to wise people or ask for instructions from great sages. ...At such time these rulers treat the sages as teachers, disregarding the protocol of the usual world. The imperial power has no authority over the wise people in the mountains.

So "mountains" are not only spiritually deepening but also (it is hoped) independent of the control of the central government. Joining the hermits and priests in the hills are people fleeing jail, taxes, or conscription. (Deeper into the ranges of southwestern China are the surviving hill tribes who worship dogs and tigers and have much equality between the sexes, but that belongs to another story.) Mountains (or wilderness) have served as a haven of spiritual and political freedom all over.

Mountains also have mythic associations of verticality, spirit, height, transcendence, hardness, resistance, and masculinity. For the Chinese they are exemplars of the "yang": dry, hard, male, and bright. Waters are feminine: wet, soft, dark "yin" with associations of fluid-but-strong, seeking (and carving) the lowest, soulful, life-giving, shape-shifting. Folk (and Vajrayana) Buddhist iconography personifies "mountains and waters" in the rupas—"images" of Fudo Myo-o (Immovable Wisdom King) and Kannon Bosatsu (The Bodhisattva Who Watches the Waves). Fudo is almost comically ferocious-looking with a blind eye and a fang, seated or standing on a slab of rock and enveloped in flames. He is known as an ally of mountain ascetics. Kannon (Kuan-yin, Avalokitesvara) gracefully leans forward with her lotus and vase of water, a figure of compassion. The two are seen as buddha-work partners: ascetic discipline and relentless spirituality balanced by compassionate tolerance and detached forgiveness. Mountains and Waters are a dyad that together make wholeness possible: wisdom and compassion are the two components of realization. Dogen says:

Wenzi said, "The path of water is such that when it rises to the sky, it becomes raindrops; when it falls to the ground, it becomes rivers." . . . The path of water is not noticed by water, but is realized by water.

There is the obvious fact of the water-cycle and the fact that mountains and rivers indeed form each other: waters are precipitated by heights, carve or deposit landforms in their flowing descent, and weight the offshore continental shelves with sediment to ultimately tilt more uplifts. In common usage the compound "mountains and waters"—shan-shui in Chinese—is the straightforward term for landscape. Landscape painting is "mountains and waters pictures." (A mountain range is sometimes also termed mat, a "pulse" or "vein"—as a network of veins on the back of a hand.) One does not need to be a speciali st to observe that landforms are a play of stream-cutting and ridge-resistance and

that waters and hills interpenetrate in endlessly branching rhythms. The Chinese feel for land has always incorporated this sense of a dialectic of rock and water, of downward flow and rocky uplift, and of the dynamism and "slow flowing" of earth-forms. There are several surviving large Chinese horizontal handscrolls from premodern eras titled something like "Mountains and Rivers Without End." Some of them move through the four seasons and seem to picture the whole world.

"Mountains and waters" is a way to refer to the totality of the process of nature. As such it goes well beyond dichotomies of purity and pollution, natural and artificial. The whole, with its rivers and valleys, obviously includes farms, fields, villages, cities, and the (once comparatively small) dusty world of human affairs.

Dogen is quoting the Chan master Furong. Dogen was probably envisioning those mountains of Asia whose trails he had walked over the years—peaks in the three to nine-thousand-foot range, hazy blue or blue-green, mostly tree-covered, maybe the steep jumbled mountains of coastal South China where he had lived and practiced thirteen years earlier. (Timberline at these latitudes is close to nine thousand feet—none of these are alpine mountains.) He had walked thousands of miles. ("The Mind studies the way running barefoot.")

If you doubt mountains walking you do not know your own walking.

Dogen is not concerned with "sacred mountains"—or pilgrimages, or spirit allies, or wilderness as some special quality. His mountains and streams are the processes of this earth, all of existence, process, essence, action, absence; they roll being and nonbeing together. They are what we are, we are what they are. For those who would see directly into essential nature, the idea of the sacred is a delusion and an obstruction: it diverts us from seeing what is before our eyes: plain thusness. Roots, stems, and branches are all equally scratchy. No hierarchy, no equality. No occult and exoteric, no gifted kids and slow achievers. No wild and tame, no bound or free, no natural and artificial. Each totally its own frail self. Even though connected all which ways; even because connected all which ways.

This, thusnessy is the nature of the nature of nature. The wild in wild.

So the blue mountains walk to the kitchen and back to the shop, to the desk, to the stove. We sit on the park bench and let the wind and rain drench us. The blue mountains walk out to put another coin in the parking meter, and go on down to the 7-Eleven. The blue mountains march out of the sea, shoulder the sky for a while, and slip back into the waters.

Homeless

The Buddhists say "homeless" to mean a monk or priest. (In Japanese, shukke—literally "out of the house.") It refers to a person who has supposedly left the householder's life and the temptations and obligations of the secular world behind. Another phrase, "leaving the world," means getting away from the imperfections of human behavior—particularly as reinforced by urban life. It does not mean distancing yourself from the natural world. For some it has meant living as mountain hermits or members of religious communities. The "house" has been set against "mountains" or "purity." Enlarging the scale of the homeless world the fifth-century poet Zhiang-yan said the proper hermit should "take the purple heavens to be his hut, the encircling sea to be his pond, roaring with laughter in his nakedness, walking along singing with his hair hanging down" (Watson, 1971, 82). The early Tang poet Han-shan is taken as the veritable model of a recluse—his spacious home reaches to the end
of the universe:

I settled at Cold Mountain long ago,
Already it seems like years and years.
Freely drifting, I prowl the woods and streams And linger watching things themselves.
Men don't get this far into the mountains,
White clouds gather and billow.
Thin grass does for a mattress,
The blue sky makes a good quilt.
Happy with a stone underhead
Let heaven and earth go about their changes.

"Homeless" is here coming to mean "being at home in the whole universe." In a similar way, self-determining people who have not lost the wholeness of their place can see their households and their regional mountains or woods as within the same sphere.

I attended the ceremonies at the shrine for the volcanic mountain of Suwa-no-se Island, in the East China Sea, one year. The path through the jungle needed brushing, so rarely did people go there. Two of us from the Banyan Ashram went as helpers to three elders. We spent the morning cutting overgrowth back, sweeping the ground, opening and wiping the unpainted wood altar-structure (about the size of a pigeon coop), and then placing some offerings of sweet potatoes, fruit, and shochu on the shelf before the blank space that in fact framed the mountain itself. One elder then faced the peak (which had been belching out ash clouds lately) and made a direct, perfunctory personal speech or prayer in dialect. We sat on the ground sweating and cut open watermelon with a sickle and drank some of the strong shochu then, while the old guys told stories of other days in the islands. Tall thick glossy green trees arched over us, roaring with cicada. It was not trivial. The domestic parallel is accomplished in each household with its photos of ancestors, offerings of rice and alcohol, and a vase with a few twigs of wild evergreen leaves. The house itself, with its funky tiny kitchen, bath, well, and entranceway altars, becomes a little shrine.

And then the literal "house," when seen as just another piece of the world, is itself impermanent and composite, a poor "homeless" thing in its own right. Houses are made up, heaped together, of pine boards, clay tiles, cedar battens, river boulder piers, windows scrounged from wrecking yards, knobs from K-Mart, mats from Cost Plus, kitchen floor of sandstone from some mountain ridge, doormat from Longs—made up of the same world as you and me and mice.

Blue mountains are neither sentient nor insentient. You are neither sentient nor insentient. At this moment, you cannot doubt the blue mountains walking.

Not only plum blossoms and clouds, or Lecturers and Roshis, but chisels, bent nails, wheelbarrows, and squeaky doors are all teaching the truth of the way things are. The condition of true "homelessness" is the maturity of relying on nothing and responding to whatever turns up on the doorstep. Dogen encourages us with "A mountain always practices in every place."

Larger Than a Wolf, Smaller Than an Elk

All my life I have been in and around wild nature, working, exploring, studying, even while living in cities. Yet I realized a few years ago that I had never made myself into as good a botanist or zoologist or ornithologist as so many of the outdoor people I admire have done. Recalling where I had put my intellectual energies over the years it came to me that I had made my fellow human beings my study—that I had been a naturalist of my own species. I had been my own object-of-study too. I enjoy learning how different societies work out the details of subsistence and celebration in their different landscapes. Science, technology, and the economic uses of nature need not be antithetical to celebration. The line between use and misuse, between objectification and celebration, is fine indeed.

The line is in the details. I once attended the dedication of a Japanese temple building that had been broken down and transported across the Pacific to be resurrected on the West Coast. The dedication ceremony was in the Shinto style and included offerings of flowers and plants. The difficulty was that they were the plants that would have been used in a traditional Japanese dedication and had been sent from Japan—they were not plants of the new place. The ritualists had the forms right but clearly didn't grasp the substance. After everyone had gone home I tried to make brief introductions myself: 'Japanese building of hinoki wood, meet manzanita and Ponderosa Pine . . . please take care of yourself in this dry climate. Manzanita, this building is used to damp air and lots of people. Please accept it in place of your dusty slopes." Humans provide their own sort of access to understanding nature and the wild.

The human diverseness of style and costume, and the constant transformations of popular culture, is a kind of symbolic speciation

—as though humans chose to mimic the colors and patterns of birds. People from the high civilizations in particular have elaborate notions of separateness and difference and dozens of ways to declare themselves "out of nature." As a kind of game this might be harmless. (One could imagine the phylum Chordata declaring, "We are a qualitative leap in evolution representing something entirely transcendent entering what has hitherto been merely biology.") But at the very minimum this call to a special destiny on the part of human beings can be seen as a case of needlessly multiplying theories (Occam's razor). And the results—in the human treatment of the rest of nature—have been pernicious.

There is a large landscape handscroll called "Interminable Mountains and Streams" (attributed to Lu Yuan of the Ching dynasty; now in the Freer). We see, within this larger scope of rocks, trees, ridges, mountains, and watercourses, people and their works. There are peasants and thatched huts, priests and complexes of temples, scholars at their little windows, fishermen in their boats, traveling merchants with their loads, matrons, children. While the Buddhist tradition of North India and Tibet made the mandala—painted or drawn charts of the positions of consciousness and cause-and-effect chains—their visual teaching aids, the Chan tradition of China (especially the Southern Song) did something similar (I will venture to suggest) with landscape painting. If a scroll is taken as a kind of Chinese mandala, then all the characters in it are our various little selves, and the cliffs, trees, waterfalls, and clouds are our own changes and stations. (Swampy reedy thicket along a stream—what does that say?) Each type of ecological system is a different mandala, a different imagination. Again the Ainu term iworu, field-of-beings, comes to mind.

All beings do not see mountains and waters in the same way. . . . Some see water as wondrous blossoms, hungry ghosts see water as raging fire or pus and blood. Dragons see water as a palace or a pavilion. . . . Some beings see water as a forest or a wall. Human beings see water as water. . . . Water's freedom depends only on water.

One July walking down from the headwaters of the Koyukuk River in the Brooks Range of Alaska I found myself able to look into the realm of Dall (mountain) Sheep. The green cloudy tundra summer alps—in which I was a frail visitor—were the most hospitable they would ever be to a hairless primate. The long dark winters do not daunt the Dall Sheep, though—they do not even migrate down. The winds blow the scant loose snow, and the dried forbs and grasses of arctic summer are nibbled through the year. The dozens of summer sheep stood out white against green: playing, napping, eating, butting, circling, sirting, dozing in their high smoothed out beds on ledges at the "cliff-edge of life and death." Dall Sheep (in Athapaskan called dibee) see mountains—Dogen might say—"as a palace or pavilion." But that provisional phrase "palace or pavilion" is too high-class, urban, and human to really show how totally and uniquely at home each life-form must be in its own unique "buddha-field."

Green mountain walls in blowing cloud
white dots on far slopes, constellations,
slowly changing, not stars, not rocks
"by the midnight breezes strewn"
cloud tatters, lavender arctic light
on sedate wild sheep grazing
tundra greens, held in the web of clan
and kin by bleats and smells to the slow
rotation of their Order living
half in the sky—damp wind up from the
whole North Slope and a taste of the icepack,
the primus roaring now,
here, have some tea.

And down in the little arctic river below the slopes the Grayling with their iridescent bodies are in their own (to us) icy paradise. Dogen again:

Now when dragons and fish see water as a palace, it is just like human beings seeing a palace. They do not think it flows. If an outsider tells them, "What you see as a palace is running water," the dragons and fish will be astonished, just as we are when we hear the words, "Mountains flow."

We can begin to imagine, to visualize, the nested hierarchies and webs of the actual nondualistic world. Systems theory provides

equations but few metaphors. In the "Mountains and Waters Sutra" we find:

It is not only that there is water in the world, but there is a world in water. It is not just in water. There is a world of sentient beings in clouds. There is a world of sentient beings in the air. There is a world of sentient beings in fire. . . . There is a world of sentient beings in a blade of grass.

It would appear that the common conception of evolution is that of competing species running a sort of race through time on planet earth, all on the same running field, some dropping out, some flagging, some victoriously in front. If the background and foreground are reversed, and we look at it from the side of the "conditions" and their creative possibilities, we can see these multitudes of interactions through hundreds of other eyes. We could say a food brings a form into existence. Huckleberries and salmon call for bears, the clouds of plankton of the North Pacific call for salmon, and salmon call for seals and thus orcas. The Sperm Whale is sucked into existence by the pulsing, fluctuating pastures of squid, and the open niches of the Galapagos Islands sucked a diversity of bird forms and functions out of one line of finch.

Conservation biologists speak of "indicator species"—animals or birds that are so typical of a natural area and its system that their condition is an indicator of the condition of the whole. The old conifer forests can be measured by "Spotted Owl," and the Great Plains once said (and would say it again) "bison." So the question I have been asking myself is: what says "humans"? What sucks our lineage into form? It is surely the "mountains and rivers without end"—the whole of this earth on which we find ourselves more or less competently at home. Berries, acorns, grass-seeds, apples, and yams call for dextrous creatures something like us to come forward. Larger than a wolf, smaller than an elk, human beings are not such huge figures in the landscape. From the air, the works of humanity are scratches and grids and ponds, and in fact most of the earth seems, from afar, to be open land. (We know now that our impact is far greater than it appears.)

As for towns and cities—they are (to those who can see) old tree trunks, riverbed gravels, oil seeps, landslide scrapes, blowdowns and burns, the leavings after floods, coral colonies, paper-wasp nests, beehives, rotting logs, watercourses, rock-cleavage lines, ledge strata layers, guano heaps, feeding frenzies, courting and strutting bowers, lookout rocks, and ground-squirrel apartments. And for a few people they are also palaces.

Decomposed

"Hungry ghosts see water as raging fire or pus and blood..."

Life in the wild is not just eating berries in the sunlight. I like to imagine a "depth ecology" that would go to the dark side of nature—the ball of crunched bones in a scat, the feathers in the snow, the tales of insatiable appetite. Wild systems are in one elevated sense above criticism, but they can also be seen as irrational, moldy, cruel, parasitic. Jim Dodge told me how he had watched—with fascinated horror—Orcas methodically batter a Gray Whale to death in the Chukchi Sea. Life is not just a diurnal property of large interesting vertebrates; it is also nocturnal, anaerobic, cannibalistic, microscopic, digestive, fermentative: cooking away in the warm dark. Life is well maintained at a four-mile ocean depth, is waiting and sustained on a frozen rock wall, is clinging and nourished in hundred-degree desert temperatures. And there is a world of nature on the decay side, a world of beings who do rot and decay in the shade. Human beings have made much of purity and are repelled by blood, pollution, putrefaction. The other side of the "sacred" is the sight of your beloved in the underworld, dripping with maggots. Coyote, Orpheus, and Izanagi cannot help but look, and they lose her. Shame, grief, embarrassment, and fear are the anaerobic fuels of the dark imagination. The less familiar energies of the wild world, and their analogs in the imagination, have given us ecologies of the mind.

Here we encounter the peculiar habitat needs of the gods. They settle on the summits of mountains (as on Mt. Olympus), have chambers deep below the earth, or are invisibly all around us. (One major deity is rumored to be domiciled

entirely off this earth.) The Yana said that Mt. Lassen of northern California—"Waganupa" in Ishi's tongue, a ten-thousand-foot volcano—is home to countless kukini who keep a fire going inside. (The smoke passes out through the smoke-hole.) They will enjoy their magical stick-game gambling until the time that human beings reform themselves and become "real people" that spirits might want to associate with once again.

The spirit world goes across and between species. It does not need to concern itself with reproduction, it is not afraid of death, it is not practical. But the spirits do seem to have an ambivalent, selective interest in cross-world communication. Young women in scarlet and white robes dance to call down the gods, to be possessed by them, to speak in their voices. The priests who employ them can only wait for the message. (I think it was D. H. Lawrence who said, "Drink and carouse with Bacchus, or eat dry bread with Jesus, but don't sit down without one of the gods.")

(The personal quality of mountain dreaming: I was half asleep on the rocky ground at Tower Lake in the Sierra. There are four horizontal bands of cream-colored rock wavering through the cliff face, and the dream said "those rock bands are your daughters.")

Where Dogen and the Zen tradition would walk, chant a sutra, or do sitting meditation, the elder vernacular artisans of soul and spirit would play a flute, drum, dance, dream, listen for a song, go without food, and be available to communication with birds, animals, or rocks. There is a story of Coyote watching the yellow autumn cottonwood leaves float and eddy lightly down to the ground. It was so lovely to watch, he asked the cottonwood leaves if he might do it too. They warned him:" Coyote, you are too heavy and you have a body of bones and guts and muscle. We are light, we drift with the wind, but you would fall and be hurt." Coyote would hear none of it and insisted on climbing a cottonwood, edging far out onto a branch, and launching himself off. He fell and was killed. There's a caution here: do not be too hasty in setting out to "become one with." But, as we have heard, Coyote will roll over, reassemble his ribs, locate his paws, find a pebble with a dot of pitch on it to do for an eye, and trot off again.

Narratives are one sort of trace that we leave in the world. All our literatures are leavings —of the same order as the myths of wilderness peoples, who leave behind only stories and a few stone tools. Other orders of beings have their own literatures. Narrative in the deer world is a track of scents that is passed on from deer to deer with an art of interpretation which is instinctive. A literature of blood-stains, a bit of piss, a whiff of estrus, a hit of rut, a scrape on a sapling, and long gone. And there might be a "narrative theory" among these other beings—they might ruminate on "intersexuality" or "decomposition criticism."

I suspect that primary peoples all know that their myths are somehow "made up." They do not take them literally and at the same time they hold the stories very dear. Only upon being invaded by history and whipsawed by alien values do a people begin to declare that their myths are "literally true." This literalness in turn provokes skeptical questioning and the whole critical exercise. What a final refinement of confusion about the role of myths it is to declare that although they are not to be believed, they are nonetheless aesthetic and psychological constructs which bring order to an otherwise chaotic world and to which we should willfully commit ourselves! Dogen's "You should know that even though all things are liberated and not tied to anything, they abide in their own phenomenal expression" is medicine for that. The "Mountains and Waters Sutra" is called a sutra not to assert that the "mountains and rivers of this moment" are a text, a system of symbols, a referential world of mirrors, but that this world in its actual existence is a complete presentation, an enactment—and that it stands for nothing.

Walking on Water

There's all sorts of walking—from heading out across the desert in a straight line to a sinuous weaving through undergrowth. Descending rocky ridges and talus slopes is a specialty in itself. It is an irregular dancing—always shifting—step of walk on slabs and scree. The breath and eye are always following this uneven rhythm. It is never paced or clocklike, but flexing—little jumps—sidesteps— going for the well-seen place to put a foot on a rock, hit flat,

move on—zigzagging along and all deliberate. The alert eye looking ahead, picking the footholds to come, while never missing the step of the moment. The body-mind is so at one with this rough world that it makes these moves effortlessly once it has had a bit of practice. The mountain keeps up with the mountain.

In the year 1225 Dogen was in his second year in South China. That year he walked out of the mountains and passed through the capital of the Southern Song dynasty, Hang-zhou, on his way north to the Wan-shou monastery at Mt. Jing. The only account of China left by Dogen is notes on talks by the master Ru-jing (Kodera, 1980). I wonder what Dogen would have said of city walking. Hang-zhou had level broad straight streets paralleling canals. He must have seen the many-storied houses, clean cobbled streets, theaters, markets, and innumerable restaurants. It had three thousand public baths. Marco Polo (who called it Quinsai) visited it twenty-five years later and estimated that i t was probably the largest (at least a million people) and most affluent city in the world at that time (Gernet, 1962). Even today the people of Hang-zhou remember the lofty eleventh-century poet Su Shi, who built the causeway across West Lake when he was governor. At the time of Dogen's walk North China was under the control of the Mongols, and Hang-zhou would fall to the Mongols in fifty-five more years.

The South China of that era sent landscape painting, calligraphy, both the Soto and Rinzai schools of Zen, and the vision of that great southern capital to Japan. The memory of Hang-zhou shaped both Osaka and Tokyo in their Tokugawa-era evolution. These two positions—one the austere Zen practice with its spare, clean halls, the other the possibility of a convivial urban life rich in festivals and theaters and restaurants—are two potent legacies of East Asia to the world. If Zen stands for the Far Eastern love of nature, Hang-zhou stands for the ideal of the city. Both are brimming with energy and life. Because most of the cities of the world are now mired in poverty, overpopulation, and pollution we have all the more reason to recover the dream. To neglect the city (in our hearts and minds for starters) is deadly, as James Hillman (1989, i69) says.

The “Mountains and Waters Sutra” goes on to say:

All waters appear at the foot of the eastern mountains. Above all waters are all mountains. Walking beyond and walking within are both done on water. All mountains walk with their toes on all waters and splash there.

Dogen finishes his meditation on mountains and waters with this: “When you investigate mountains thoroughly, this is the work of the mountains. Such mountains and waters of themselves become wise persons and sages"—become sidewalk vendors and noodle-cooks, become marmots, ravens, graylings, carp, rattlesnakes, mosquitoes. All beings are “said” by the mountains and waters—even the clanking tread of a Caterpillar tractor, the gleam of the keys of a clarinet.