Environmental Readings Volume 2: What Now?

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What Now?

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Economic Nature by Jack Turner

Chapter 4 from The Abstract Wild, 1996

The conservation movement is, at the very least, an assertion that these interactions between man and land are too important to be left to chance, even that sacred variety of chance known as economic law.—Aldo Leopold

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We live surrounded by scars and loss. Each of us carries around a list of particular offenses against our place: a clear-cut, an over-grazed meadow, a road, a dam. Some we grudgingly accept as necessary, others we judge mistakes. The mistakes haunt us like demons, the demons spawn avenging spirits, and the presence of demons and spirits helps make a place our home. It is not accidental that "home" and "haunt" share deep roots in Old English, that we speak of the home of an animal as its haunt, or that "haunt" can mean both a place of regular habitation and a place marked by the presence of spirits. Like scars, the spirits are reminders - traces by which the past remains present.

Forty years ago big cutthroats cruised the Gros Ventre River of Jackson Hole, Wyoming. Now, in late summer, dust blows up the river bed. It's as dry as an arroyo in Death Valley, a dead river drained by ranchers. Each autumn much of Jackson Lake, the jewel of Grand Teton National Park, is a mud flat baking in the sun, its waters drained to irrigate potatoes. Without good snowfalls each winter the lake could disappear and with it the big browns, and with those browns, Gerard Manley Hopkins' "rose moles all in stipple upon trout that swim."1 The western border of Yellowstone National Park can be seen from outer space, a straight line cut through a once fine forest by decades of clearcutting. From the summits of the Tetons, I see to the west a mosaic of farms scarring the rounded hills and valleys, as though someone had taken a razor to the face of a beautiful woman. Farther west, the sock-eye salmon no longer come home from the sea. The rivers are wounded by their absence.

These wounds and scars are not random. We attribute the damage to particular people or corporations or to generalities like industrialization, technology, and Christianity, but we tend to ignore the specific unity that made *these* particular wounds possible. This unity lies in the resource economies of the West: forestry, grazing, mineral extraction, and the vast hydrological systems that support agriculture. Healing those wounds requires altering these economics, their theories, practices, and most deeply and importantly, their descriptions of the world, for at the most fundamental level the West has been wounded by particular uses of language.

Modern economics began in postfeudal Europe with the social forces and intellectual traditions we call the Enlightenment. On one level, its roots arc a collection of texts. Men in England, France, and Germany wrote books; our Founders read the books and in turn wrote letters, memoranda, legislation, and the Constitution, thus creating a modern civil order of public and private sectors. Most of the problems facing my home today stem from that duality: water rights, the private use of public resources, public access through private lands, the reintroduction of wolves into Yellowstone National Park, wilderness legislation, the private cost of grazing permits on public lands, military overflights, nuclear testing, the disposal of toxic waste, county zoning ordinances—the list is long. We are so absorbed by these tensions, and the means to resolve them, that we fail to notice that our maladies share a common thread—the use of the world conceived of as a collection of resources.

Almost everyone agrees the use of public and private resources is out of kilter, but here agreement ends. This absence of agreement is the key to our difficulties, not, for instance, the cost of grazing fees.

A civil society is marked by a barely conscious consensus of beliefs, values, and ideals —of what constitutes legitimate authority, on what symbols are important, on what problems need resolution, and on limits to the permissible. I think of this consensus as a shared vision of the good. Historically, our shared vision of the good derived from shared experience and interests in a shared place. In the West, these "sharings" have vanished—assuming, of course, they ever existed. We share no vision of the good,

especially concerning economic practices. One of the many reasons for this is the growing realization that our current economic practices are creating an unlivable planet.

The decline in consensus also erodes trust. Trust is like glue—it holds things together. When trust erodes, personal relations, the family, communities, and nations delaminate. To live with this erosion is to experience modernity. 2 The modern heirs of the Enlightenment believe material progress is worth the loss of shared experience, place, community, and trust. Others are less sanguine. But in the absence of alternatives the feeling of dilemma becomes paramount: most of us in the West feel stuck.

Daniel Kemmis's fine book *Community and the Politics of Place* traces some of the West's current dilemmas to the often conflicting visions of Jefferson and Madison, and no doubt some of our dilemmas can be discussed productively in this context. But I think the problems lie deeper. After all, Jefferson and Madison derived their ideas from the works of Enlightenment figures, especially John Locke and Adam Smith, men whose thought was a mixture of classical science, instrumental reason, and Christian revelation.

The heirs of Locke and Smith are the members of the so-called Wise Use movement. Its vigor derives from an accurate assessment: the social order they believe in *requires* Christian revelation, pre-Darwinian science, pre-particle physics, and a model of reason as the maximization of utility. The accuracy of this assessment, in turn, disturbs both liberals and conservatives who wish to preserve Enlightenment ideals while jettisoning the Christian foundations upon which those ideals rest. Unfortunately, that reduces social theory to economics. As John Dunn concluded twenty-five, years ago in *The Political Thought of John Locke*, "'Lockean' liberals of the contemporary United States are more intimately than they realize the heirs of the egalitarian promise of Calvinism. If the religious purpose and sanction of the calling were to be removed from Locke's theory, the purpose of individual human life and of social life would both be exhaustively defined by the goal of the maximization of utility" (250). That's where we are now. Instead of a shared vision of the good, we have a collection of property rights and utility calculations.

Since I am a Buddhist, I do not restrict equality to human beings, nor do I justify it by Christian revelation. Nor do I see any reason to restrict "common" (as in "the common good") or "community" to groups of human beings. Other citizens of the West have different understandings and justifications of these key political terms, so part of the solution to the West's differences involves language.

Between Newton and the present, the language of physical theory changed and our conception of reality has changed with it. Unfortunately, the languages of our social, political, and economic theories have endured despite achieving mature formulation before widespread industrialization, the rise of technology, severe overpopulation, the explosion of scientific knowledge, and globalization of economies. These events altered our social life without altering theories *about* our social life. Since a theory is merely a description of the world, a new set of agreements about the West requires some new descriptions of the world and our proper place in it.

Against this background, environmentalism, in the broadest sense, is a new description of the world. The first imaginings of the movement have led to what *Newsweek* has called "the war for the West." Attorney Karen Budd, who often supports Wise Use agendas, says, "The war is about philosophy," and she's right.3 The fight is over intellectual, not physical, resources. Environmentalists fight to reduce the authority of certain descriptions—e.g., "private property"—and to extend the authority of other descriptions —e.g., "ecosystem." It is the language of pilgrims who entered the wilderness and found not Him, but the Wild.

These new forces have occupied the border of our minds - strange figures claiming high moral ground, like Sioux along the ridges of the Missouri. It's unsettling. Folks employed in traditional economies are circling the wagons of old values and beliefs. Their tone and posture is defensive, as it must be for those who, hurled into the future, adamantly cling to the past.

II

The pioneers who settled the West imposed their descriptions on a place they called wilderness and on people they called savages. Neither were, by definition, a source of moral value. The great debates of Jefferson, Madison, Hamilton, and Adams were filled with Enlightenment ethics, revelation, science, political theory, and economic theory. The pioneers brought these ideas west to create a moral and rational order in a new land. Their ideas of what was moral and rational were connected by economics.

The government's great surveys redescribed the western landscape. In 1784 the federal government adopted a system of rectangular surveying first used by the French for their national survey. The result was a mathematical grid: six-mile squares, one-mile squares.[4] Unfold your topo map and there they are, little squares everywhere. Fly over a town or city and you will see people living in a matrix resembling a computer chip. The grid also produced rectangular farms, national parks, counties, Indian reservations, and states, none of which have any relation to the biological order of life.

The grid delighted the pioneers though; they believed a rationalized landscape was a good landscape. It was a physical expression of order and control—the aim of their morality. The idea, of course, was to sell the grid for cash. Indeed, the selling of the grid was the primary reason for its existence. This shifted the locus of the sacred from place to private property. As John Adams said, "Property must be sacred or liberty cannot exist." So the grid was sold to farmers, ranchers, and businessmen, and the places long sacred to the indigenous population simply vanished behind the grid, behind lines arrogantly drawn on paper. With the places gone, the sense of place vanished too—just disappeared.

The sale didn't work out quite as planned. Some land was sold, but often for as little as $1.25 an acre. Other land passed "free" to those who worked it. What was not sold became public land or was reserved to imprison the remnants of the indigenous population. Much of it was simply given to commercial interests.

The railroads alone received 233 million acres. For comparison, consider that Yellowstone National Park's boundaries encompass 2.3 million acres, and that in 1993 our entire national park system—including parks, national monuments, historic sites, historic parks, memorials, military parks, battlefields, cemeteries, recreational areas, lake shores, seashores, parkways, scenic trails, and rivers, in the lower forty-eight *and* Alaska—totals 79 million acres. Consider also that 59 percent of our wilderness areas (which, combined, total 91 million acres) are smaller than Disney World.

Agricultural practices forever destroyed the autonomy of the land sold to farmers and ranchers. Jefferson wrote that "those who labor in the earth are the chosen people of God, if ever He had a chosen people, whose breasts He has made His peculiar deposit for substantial and genuine virtue. It is the focus in which he keeps alive that sacred fire, which otherwise might escape from the face of the earth."5 God's chosen perceive it good to move water within irrigation systems; they perceive it good to introduce foreign species of plants and animals; they perceive it good to destroy all that is injurious to their flocks and gardens. In short, they perceive as good that which is good for farmers and ranchers.

Federalists were less convinced of the inherent goodness of farmers, and in retrospect, of course, they were correct. (After all , farmers had burned women at the stake in New England, and, in other parts of the world still boiled and ate their enemies.) Their solution was a federal system of checks and balances. Just as the free market would transform the pursuit of economic self-interest into the common good, so a federal government would transform the pursuit of political self-interest into the common good. Unfortunately, the pursuit of self-interest merely produced more self-interest, an endless spiral that we now recognize as simple greed.

In short, the social order of the American West was a mishmash of splendid ideals and pervasive blindness—a rationalized landscape settled by Christians holding private property as sacred and practicing agriculture and commerce under the paternal eye of the federal

government. Eventually, of course, these forces proved unequal in power and effect.

Things change. Governmental regulations, commercial greed, and the expanding urban population gobbled up family farms, ranches, and communities, and left in their place industrial agriculture, large tracts of empty land held by banks, subdivisions, and malls. In Wyoming, for instance, only 2 percent to 4 percent of jobs now depend on agriculture.

Things change. The little squares got smaller and smaller as the scale of the social order changed. First there was the section, then the acre, then the hundred-foot lot, then wall-to-wall town houses, then condos. Last year the town of Jackson, Wyoming, contemplated building three-hundred-square-foot housing—about the size of a zoo cage. Most people live in tiny rented squares and the ownership of sacred property is an aging dream. The moral force of private property, derived from owning land, usually large amounts of land, has dropped accordingly. For most people, the problems connected with large holdings of private land are inconsequential. Asking citizens to lament the government's incursion into private-property rights increasingly obliges them to feel sorry for the rich, an obligation that insults their sense of justice.

Things change. The federal system of checks and balances constantly stalls and sabotages federal legislation, making hash of federalism. Every time Congress meets, it is pressured to gut the Clean Air Act and the EPA. Despite widespread regional and national support, twenty years elapsed between the passage of the Endangered Species Act and the reintroduction of wolves in Yellowstone.

Things change. Even the mathematical grid is under attack. The idea that our social units should be defined by mathematical squares projected upon Earth from arbitrary points in space appears increasingly silly. One result is the interest in bioregionalism, the view that drainage, flora, fauna, land forms, and the spirit of a place should influence culture and social structure, define its boundaries, and ensure that evolutionary processes and biological diversity persist.

Things change. A new generation of historians have redescribed our past, deflating the West's myths with rigorous analysis of our imperialism, genocide, exploitation, and abuse; our vast hierarchies of wealth and poverty; the collusion of the rich and the government, especially over water; the biological and ecological ignorance of many farmers, ranchers, and capitalists; and, finally, how our old histories veiled the whole mess with nods to Republican and Jeffersonian ideals. Anyone who bothers to read the works of Donald Worster, Dee Brown, Patricia Nelson Limerick, and Richard White will be stripped forever of the comfortable myths of pioneer and cowboy.6

Few, I believe, would deny these changes, and yet in our public discourse of hearings and meetings and newspaper editorials we continue to trade in ideas appropriate to a small homogeneous population of Christian agriculturists occupying large units of land. We continue to believe that politicians represent people, that private property assures liberty, and that agriculture, commerce, and federal balances confer dignity and respect on the West and its people. Since this is largely illusion, it is not surprising that we face problems.

Only one widely shared value remains—money—and this explains our propensity to use business and economics rather than moral debate and legislation to settle our differences. When “the world” shrinks into a rationalized grid stuffed with resources, greed goes pandemic.

Many conservation and preservation groups now disdain moral persuasion, and many have simply given up on government regulation. Instead, they purchase what they can afford or argue that the market should be used to preserve everything from the ozone layer to biodiversity. They offer rewards to ranchers who allow wolves to den on their property, they buy trout streams, they pay blackmail so the rich will not violate undeveloped lands. They defend endangered species and rain forests on economic grounds. Instead of seeing modern economics as the problem, they see it as the solution.

This rejection of persuasion creates a social order where in economic language (and its extensions in law) exhaustively describes our world and, hence, *becomes* our world. Moral,

aesthetic, cultural, and spiritual orders are then merely subjective tastes of no social importance. It is thus no wonder that civility has declined. For me this new economic conservation "ethic" reeks of cynicism—as though having failed to persuade and woo your love, you suddenly switched to cash. The new economic conservationists think they are being rational; I think they treat Mother Nature like a whorehouse.

Ironically, the Enlightenment and civil society were designed to rescue us from such moral vacuums. The Enlightenment taught that human beings need not bow to a force beyond themselves, neither church nor king. Now we are asked to bow to markets and incentives.

Shall we bow to the new king? Can the moral concerns of the West be resolved by economics? Can new incentives for recycling, waste disposal, and more efficient resource use end the environmental crisis? Can market mechanisms restore the quality of public lands? Does victory lie in pollution permits, tax incentives, and new mufflers? Will green capitalism preserve biodiversity? Will money heal the wounds of the West?

One group that answers these questions in the affirmative is New Resource Economics. It welcomes the moral vacuum and fills it with markets and incentives. As economic theory it deserves scrutiny by economists. I am not an economist but a mountaineer and desert rat. Nonetheless, I shall have my say even though the word "economics" makes me hiss like Golem in Tolkien's *The Hobbit*: "I hates it, I hates it, I hates it *forever*." For I believe classical economic theory, and all the theories it presupposes, is destroying the magic ring of life.

III

In the winter of 1992 I flew to Seattle at the generous invitation of the Foundation for Research on Economics and the Environment to attend a conference designed to acquaint environmental writers with the ideas of New Resource Economics. The conference was held amidst a mise-en-scène of assurance and power —tasteful, isolated accommodations, lovely meals, good wine. I felt like a barbarian called to Rome to applaud its splendor.

The best presentations were careful, devastating analyses of the inefficiency and incompetence of the U.S. Forest Service. In sharp contrast were other presentations with vague waves at the preferred vocabulary of self-interest: incentives, market, liberty. They exuded an attitude of "*You see!*" as though the realm of sylvan possibilities was limited to two choices: socialism or New Resource Economics. They were Eric Hoffer's true believers, folks who had seen the light and are frustrated and angry that others fail to see economics as the solution to our environmental plight.

I not only failed to see the light, I failed to understand what was new about New Resource Economics. The theory applies ideas about markets that are now more than two hundred years old. After awhile I had the feeling of watching the morally challenged tinker with notions rapidly disappearing over the horizon of history as they attempted to upgrade one antiquated idea into another. And yet I have little doubt they will succeed.

Having just flown over the devastated forests east of Seattle, I wanted to scream, "See the fate of the Earth, the rape of the land!"—but I knew they would respond calmly with talk of incentives and benefits and inefficiency.

Finally I understood. The conference's hidden agenda was to persuade environmental writers to describe nature with an economic vocabulary. They had a theory, and like everyone with a theory, they were attempting to colonize with their theoretical vocabulary, thus eliminating other ways of describing the world.

The conference literature reeked of colonization. Vernon L Smith's paper, *Economic Principles in the Emergence of Humankind*, describes magic, ritual, and foraging patterns in hunter-gatherer cultures with terms like "opportunity cost," "effort prices," and "accumulated human capital."[7] Michael Rothchild, in *Bionomics: Economy as Ecosystem*, extends economic vocabulary to ecosystems and animal behavior; a niche becomes an organism's "profession," its habitat and food "basic resources," its relations to habitat simply a part of the "economy of nature."

In *Reforming the Forest Service*, Randal O'Toole claims that "although the language used

by ecologists differs from that of economists, it frequently translates into identical concepts. Where economists discuss efficiency, decentralization, and incentives, ecologists discuss the maximum power principle, diversity, and feedback loops." O'Toole also maintains that "these very different terms have identical meanings," and he concludes that "ecological systems are really economic systems, and economic systems are really ecological systems" (193).

The redescription of everything with economic language is characteristic of those who sit in the shade of the Chicago school of economics. Thus Richard Posner, in *The Economic Aspects of Law*, colonizes legal issues with economic vocabulary. Regarding children, Posner thinks "the baby shortage and black market are the result of legal restrictions that prevent the market from operating as freely in the sale of babies as of other goods. This suggests as a possible reform simply eliminating the restriction." [8] Bunker, Barnes, and Mosteller's *Costs, Risks, and Benefits of Surgery* does the same for medical treatment.

Indeed, all areas of our social life have been redescribed in economic language. If you like the theory in one area, you will probably like it everywhere. Nor is economic redescription limited to social issues. For example, Robert Nozick, in *The Examined Life*, applies economic language to the question of why we might love our spouse.

> Repeated trading with a fixed partner with special resources might make it rational to develop in yourself specialized assets for trading with that partner (and similarly on the partner's part toward you); and this specialization gives some assurance that you will continue to trade *with that party* (since the invested resources would be worth much less in exchanges with any third party). Moreover, to shape yourself and specialize so as to better fit and trade with that partner, and therefore to do so less well with others, you will want some commitment and guarantee that the party will continue to trade with you, a guarantee that goes beyond the party's own specialization to fit you (77-78)

In a footnote, Nozick says, "This paragraph was suggested by the mod of economic analysis found in Oliver Williamson, *The Economic Institutions of Capitalism*."

Why stop with love? In *The New World of Economics* by McKenzie and Tullock, sex becomes a calculated rational exchange.

> [I]t follows that the quantity of sex demanded is an inverse function of price.... The reason for this relationship is simply that the rational individual will consume sex up to the point that the marginal benefits equal the marginal costs.... If the price of sex rises relative to other goods, the consumer will "rationally" choose to consume more of the other goods and less sex. (Ice cream, as well as many other goods, can substitute for sex if the relative price requires it.)[9]

So, many men are bores, and what to do? Why bother with arguments, why not just giggle? Unfortunately, too much is at stake.

If we are to preserve a semblance of democracy in the West, we must become crystal clear about how economists colonize with their language.

To start, look at an example of redescription by a theory I disapprove of. Consider, for instance, psycho-babble. "

"What did you do today?"

"I cleaned my desk."

"Ah yes, being *anal compulsive* again."

"No, it was just a mess."

"No need to be *defensive*."

"I'm not being *defensive*, I'm just disagreeing with you."

"Yes, but you disagree with me because you have an *unresolved conflict* with your father."

"No, I always got along well with Dad."

"Of course you believe that, but the conflict was unconscious."

"There was no conflict!"

"I am not your father! Please don't *cathect* your speech with *projected aggression*."

Ad infinitum. Ad nauseam.

Resource, market, benefits, rational, property, self-interest function the same way as *conflict, unconscious, cathect*, and *projected aggression*. They are simply the terms a particular theory uses to describe the world. By accepting those descriptions, you support and extend the theory. You could decide to ignore the theory, or conclude that the theory is fine in its limited context but shouldn't be extended into others. But if we don't want the fate of our forests decided by bar graphs, we need to cease talking about forests as measurable resources. That docs not require you to stop talking to your investment banker about the bar graphs in her analysis of your portfolio.

Economists and scientists have conned us into speaking of trees as ''resources," wilderness as a "management unit," and picas gathering grass for the winter because of "incentives." In accepting their descriptions, we allow a set of experts to define our concerns in economic terms and predetermine the range of possible responses. Often we cannot even raise the issues important to us because the economic language of others excludes our issues from the discussion. To accept this con emasculates not only radical alternatives, but all alternatives. Every vocabulary shapes the world to fit a paradigm. If you don't want nature reduced to economics, then *refuse to use its language.*

This process of theoretical redescription has been termed "colonization" because it privileges one description of the world and excludes others. The Sioux say the Black Hills are "sacred land," but they have found that "sacred land" does not appear in the language of property law. There is no office in which to file a claim for sacred land. If they filed suit, they'd discover that the Supreme Court tends to protect religious belief but not religious practices in a particular place- a very Protestant view of religion.

Language is power. Control people's language and you won't need an army to win the war for the West. There will be nothing to debate. If we are conned into describing the life of the Earth and our home in terms of benefits, resources, self-interest, models, and budgets, then democracy will be dead.

What to do? I have five suggestions.

First, refuse to talk that way. It's like smoking, or eating lard. Just say no, and point out that your concerns cannot be expressed in that language.

Second, develop a talent for light-hearted humor using economic language. Here again, Thoreau was a prophet. Henry knew a great deal about economics. He read Locke and his followers in both his junior and senior years at Harvard; he was acquainted with the ideas of Smith, Ricardo, Say, and Franklin; and he helped run his family's pencil business when the industry was becoming increasingly competitive and undergoing rapid change. But Thoreau flips economic language on its head. (Remember, the first chapter of Walden is titled "Economy.") His "trade" turns out to be with the Celestial Empire; hiss enterprises are inspecting snow storms and sunrises; he "sinks his capital" into hearing the wind; he "keeps his accounts" by writing in his journal; and he gleefully carries the cost of rye meal out to four decimal places: $1.0475. Nothing is fixed, all is metaphor, even economics.

Third, become so intimate with the process of economic description, you *experience* what's wrong with it. Since economics is a world of resources—physical resources, cultural resources, recreational resources, visual resources, human resources—our wonderfully diverse, joyful world must be reduced to measurable resources. This involves abstraction, translation, and a value. Just as time is abstracted from experience and rendered mechanical (the clock) so it can be measured, space is abstracted from place and becomes property: measurable land. In the same way, trees are abstracted into board-feet, wild rivers are abstracted into acre-feet, and beauty is abstracted into a scene whose value is measured by polls.

Economics reduces everything to a unit of measurement because it requires that everything be commensurate—"capable of being measured by a common standard"—its standard. The variety of these calculable units may be great—board-feet, time, tons, hours—but all of these

units can be translated into a common value similar to the way different languages can be translated. Both types of translation require something common. In linguistic translation, it is meaning; in economic translations, it is money—not the change in your pocket, but the stuff that blips on computer screens and bounces off satellite dishes from Germany to Japan in less than a second. An hour's labor is worth a certain amount of money; so is three hundred board-feet of redwood.

Once everything is abstracted into commensurate units and common value, economic theory is useful. If the value of one kind of unit (computer chips) grows in value faster than another kind of unit (board-feet), economic theory says translate board feet into money into computer chips. In ordinary English: Clear-cut the last redwoods for cash and buy Intel stock. If you don't like deciding the fate of redwoods by weighing the future of Intel, then you probably won't like economics.

Refuse these three moves—the abstraction of things into resources, sources, their commensurability in translatable units, and the choice of money as the value of the units—and economic theory is useless.

Once you understand the process, it's easy to recognize examples. For instance, in *Reforming the Forest Service*, Randal O'Toole describes walking in the mountains as a wilderness experience using a recreational resource that generates benefits: cash and jobs (206). These benefits are compared to other possible uses of the resource, say, grazing and logging, that generate other benefits. The benefits can then be compared. This provides a rational basis for budget maximization. Your walk in the Tetons becomes, by redescription, an economic event.

A fourth way to subvert economic language is to realize that nothing of great value is either abstract or commensurate. Start with your hand. The workman's compensation office can tell you the value of your hand in dollars. Consider your daughter. An insurance company or litigation lawyer can tell you her value in dollars. What is your home place worth? Your lover's hair? A stream? A species? Wolves in Yellowstone? Carefully imagine each beloved person, place, animal, or thing redescribed in economic language. Then apply cost-benefit analysis. What results is a feeling of sickness familiar from any forest sale or predator-control proposal. It is the sickness of being forced to use a language that ignores what matters in your heart.

Finally, realize that describing life—the completely individual, unique here-now alive *this*—with abstractions is especially dissonant. Consider the "resources" used in a biology class. The founder of experimental physiology, Claude Bernard, said that the man of science "no longer hears the cry of animals, he no longer sees the blood that flows, he sees only his idea and perceives only organisms concealing problems which he intends to solve."10 He sees only the idea that will give him something to do in the world. Meanwhile the screams of animals in laboratory experiments are redescribed as "high-pitched vocalizations."

In an extraordinary essay, "Pictures at a Scientific Exhibition," William Jordan, an entomologist, describes his graduate education and the ghastly (his word) treatment of animals it required.

> Fifteen years ago I saw several of my peers close down their laboratory for the evening, and as they cleaned up after the day's experimentation they found that three or four mice were left over. The next experiments were not scheduled for several weeks, and *it wasn't worth the cost and effort to keep the mice alive until then*. My friends simply threw the extras into a blender, ground them up, and washed them down the sink. This was called the Bloody Mary solution. Several days ago I talked with another old peer from my university days, and she informs me that the new, humane method for discarding extra mice in her lab is to seal them in a plastic bag and put it in the freezer.
>
> I repeat: the attitude toward nonhuman life has not changed among experimental biologists. Attitude is merely a projection of one's values, and their values have not changed;

they do not respect life that is not human. (199, my emphasis)

Science, including economics, tends to reduce nonhuman life to trash. The screaming animals, the dead coyotes, the Bloody Mary mice, the stumps, the dead rivers—all are connected by these processes of abstraction, commensurability, and financial value. There is no logical necessity for us to describe the world this way. The Apaches didn't do it, and we need to reach a point where we don't do it either.

We need to find another way of describing the world and our experience in it. Leave this pernicious, mean-spirited way of talking behind. One of my heroes said he could imagine no finer life than to arise each morning and walk all day toward an unknown goal forever. Basho said this *is* our life. So go for a walk and clear the mind of this junk. Climb right up a ridge, over the talus and through the whitebark pine, through all those charming little grouse wortleberries, and right on into the blue sky of Gary Snyder's *Mountains and Rivers Without End*:

the blue sky
the blue sky

The Blue Sky
is the land of
O L D M A N
M E D I C I N E
BUDDHA
where the eagle
that flies out of
sight,

flies.

IV

Traveling to that conference last winter I found the the approach to Seattle from the east to be infinitely sad. Looking down at those once beautiful mountains and forests so shaved and mowed down they look like sores, I didn't care if the land below was public or private, if the desecration was efficient or inefficient, cost beneficial, or subsidized, whether the lumber products were sent to Japan or used to build homes in Seattle. I was no longer interested in that way of looking at the world. Increasingly, I am a barbarian in the original sense of the Greek word—one who has trouble with the language of civilization. So, slowly and reluctantly, I am burning bridges to the past, all the while noticing, as if in penance, that the ideas and abilities of a trained pedant follow close as shadows.

A passage from an obscure journal by the philosopher Nelson Goodman often occupies my mind. "For me, there is no way which is the way the world is; and so of course no description can capture it. But there are many ways the world is, and every true description captures one of them." [12]

The universe we can know is a universe of descriptions. If we find we live in a moral vacuum, and if we believe this is due in part to economic language, then we are obligated to create alternatives to economic language. Old ways of seeing do not change because of evidence; they change because a new language captures the imagination. The progressive branches of environmentalism—defined by an implacable insistence on biodiversity, wilderness, and the replacement of our current social grid with bioregions—have been sloughing off old ideas and creating one of many possible new languages.

Emerson started the tradition by dumping his Unitarian vocabulary and writing "Nature" in language that restored nature's sacredness. Thoreau altered that vocabulary further and captured our imagination. The process continues with the labor of poets, deep ecologists, and naturalists. It is not limited to radical environmentalism, however; it includes many who are onIy partially sympathetic to the radical cause. Michael Pollan, for example, tells us in *Second Nature* that science has proposed some new descriptions of trees as the lungs of the Earth. And radical economist Thomas Michael Power suggests in *The Economic Pursuit of Quality* that "economy" might be extended beyond commerce. The process is enforced when Charles F. Wilkinson, in *The Eagle Bird*, suggests changes in the language of law that would honor our surrender to the beauty of the world and of emotion.

Imagine extending the common in "common good" to what is common to all life—

the air, the atmosphere, the water, the processes of evolution and diversity, the commonality of all organisms in their common heritage. Imagine extending "community" to include all the life forms of the place that is your home. Imagine "accounting" in its original sense: *to be accountable*. What does it mean to be accountable, and to whom and to what purpose? What's "a good deal" with the Universe? Imagine an economics of need. Instead of asking "What is this worth?" ask "What does this forest need?" "What does this river need?"

Consider Lewis Hyde's beautiful description of an Amish quilt sale: "A length of rope stretched around the farm yard full of household goods. A little sign explained that it was a private auction, in which only members of the Amish community were allowed to bid. Though goods changed hands, none left the community. And none could be inflated in value. If sold on the open market, an old Amish quilt might be too valuable for a young Amish couple to sleep under, but inside that simple fence it would always hold its value on a winter night." 13

"Hold its value on a winter night"? What's happening here?

It's as simple as that rope and a group of people deciding to place aspects of their shared experience above economic values determined by the open market. They don't ignore economic value—there is still a price, bidding, and competition—but it is restrained by a consensus of appreciation a wider market would ignore.

Although this example comes from a religious community, its power does not turn on religion; although it comes from an agricultural community, it does not turn on agriculture. It turns on two things: shared experience and shared place—the politics of locale. As does the Bill of Rights, the rope creates a limit with standards and values shared by the community. We need to imagine
an immense fugue of variations on that simple fence, each creating a new world.

These imaginings will be the worthy labor of poets and thinkers and artists whose primary task, it seems to me, is to extend those qualities we value most deeply—the source of our moralities and spiritual practices—into what we call "the world." Many will find that source is empty, drained like the great aquifers that water our greed. Others will discover links between their integrity and that of an ecosystem, between their dignity and the dignity of a tree, between their desire for autonomy and the autonomy all beings desire, between their passions and the wild processes that sustain all life.

Extend these moral and spiritual sources into nature and the spirits of each treasured place will *speak* as they have always spoken—through art, myth, dreams, dance, literature, poetry, craft. Open the door and they will transform your mind—instantly. If children were raised hearing stories of spotted owls, honoring them with dances, imagining them in dreams, and seeking the power of their gaze, then spotted owls would speak to us, transformed by mind into *Our-Form-of-Life-At-The-Place-of-Spotted-Owls*.

Then we wouldn't have to worry about clear-cutting spotted-owl habitat. And when wildfires articulated their needs, we would not drown them in chemicals. When wild rivers spoke, they would be cleared of dams, and the salmon would come home from the sea.

Dig in someplace—like a great fir driving roots deep into a rocky ridge to weather storms that are inseparable from the shape of its roots. Allow the spirits of your chosen place to speak through you. Say their names. Say Moose Ponds, Teewinot, Pingora, Gros Ventre, Stewart Draw, Lost River. Speak of individuals—the pine marten that lives in the dumpster, the *draba* on the south ridge of the Grand Teton. Force the spirits of your place to be heard. Be hopeful. Language changes and imagination is on our side. Perhaps in a thousand years our most sacred objects will be illuminated floras, vast taxonomies of insects, and a repertoire of songs we shall sing to whales.

It is April and still cool beside Deer Creek in the Escalante country. Around me lies last year's growth, old sedges and grasses in lovely shades of umber and sienna. Beside me stands an ancient Fremont cottonwood. At the tips of its most extended and fragile branches, bright against a cobalt sky, are the crisp green buds of spring.

The Pleasure of Eating by Wendell Berry

from What Are People For?, 1990

Many times, after I have finished a lecture on the decline of American farming and rural life, someone in the audience has asked, "What can city people do?"

"Eat responsibly," I have usually answered. Of course, I have tried to explain what I mean by that, but afterwards I have invariably felt there was more to be said than I had been able to say. Now I would like to attempt a better explanation.

I begin with the proposition that eating is an agricultural act. Eating ends the annual drama of the food economy that begins with planting and birth. Most eaters, however, are no longer aware that this is true. They think of food as an agricultural product, perhaps, but they do not think of themselves as participants in agriculture. They think of themselves as "consumers." If they think beyond that, they recognize that they are passive consumers. They buy what they want — or what they have been persuaded to want — within the limits of what they can get. They pay, mostly without protest, what they are charged. And they mostly ignore certain critical questions about the quality and the cost of what they are sold: How fresh is it? How pure or clean is it, how free of dangerous chemicals? How far was it transported, and what did transportation add to the cost? How much did manufacturing or packaging or advertising add to the cost? When the food product has been manufactured or "processed" or "precooked," how has that affected its quality or price or nutritional value?

Most urban shoppers would tell you that food is produced on farms. But most of them do not know what farms, or what kinds of farms, or where the farms are, or what knowledge of skills are involved in farming. They apparently have little doubt that farms will continue to produce, but they do not know how or over what obstacles. For them, then, food is pretty much an abstract idea — something they do not know or imagine — until it appears on the grocery shelf or on the table.

The specialization of production induces specialization of consumption. Patrons of the entertainment industry, for example, entertain themselves less and less and have become more and more passively dependent on commercial suppliers. This is certainly true also of patrons of the food industry, who have tended more and more to be mere consumers — passive, uncritical, and dependent. Indeed, this sort of consumption may be said to be one of the chief goals of industrial production. The food industrialists have by now persuaded millions of consumers to prefer food that is already prepared. They will grow, deliver, and cook your food for you and (just like your mother) beg you to eat it. That they do not yet offer to insert it, prechewed, into our mouth is only because they have found no profitable way to do so. We may rest assured that they would be glad to find such a way. The ideal industrial food consumer would be strapped to a table with a tube running from the food factory directly into his or her stomach.

Perhaps I exaggerate, but not by much. The industrial eater is, in fact, one who does not know that eating is an agricultural act, who no longer knows or imagines the connections between eating and the land, and who is therefore necessarily passive and uncritical — in short, a victim. When food, in the minds of eaters, is no longer associated with farming and with the land, then the eaters are suffering a kind of cultural amnesia that is misleading and dangerous. The current version of the "dream home" of the future involves "effortless" shopping from a list of available goods on a television monitor and heating precooked food by remote control. Of course, this implies and depends on, a perfect ignorance of the history of the food that is consumed. It requires that the citizenry should give up their hereditary and sensible aversion to buying a pig in a poke. It wishes to make the selling of pigs in pokes an honorable and glamorous activity. The dreams in this dream home will perforce know nothing about the kind or quality of this food, or where it came from, or how it was produced and prepared, or what ingredients, additives, and residues it contains — unless, that is, the

dreamer undertakes a close and constant study of the food industry, in which case he or she might as well wake up and play an active an responsible part in the economy of food.

There is, then, a politics of food that, like any politics, involves our freedom. We still (sometimes) remember that we cannot be free if our minds and voices are controlled by someone else. But we have neglected to understand that we cannot be free if our food and its sources are controlled by someone else. The condition of the passive consumer of food is not a democratic condition. One reason to eat responsibly is to live free.

But if there is a food politics, there are also a food esthetics and a food ethics, neither of which is dissociated from politics. Like industrial sex, industrial eating has become a degraded, poor, and paltry thing. Our kitchens and other eating places more and more resemble filling stations, as our homes more and more resemble motels. "Life is not very interesting," we seem to have decided. "Let its satisfactions be minimal, perfunctory, and fast." We hurry through our meals to go to work and hurry through our work in order to "recreate" ourselves in the evenings and on weekends and vacations. And then we hurry, with the greatest possible speed and noise and violence, through our recreation — for what? To eat the billionth hamburger at some fast-food joint hellbent on increasing the "quality" of our life? And all this is carried out in a remarkable obliviousness to the causes and effects, the possibilities and the purposes, of the life of the body in this world.

One will find this obliviousness represented in virgin purity in the advertisements of the food industry, in which food wears as much makeup as the actors. If one gained one's whole knowledge of food from these advertisements (as some presumably do), one would not know that the various edibles were ever living creatures, or that they all come from the soil, or that they were produced by work. The passive American consumer, sitting down to a meal of pre-prepared or fast food, confronts a platter covered with inert, anonymous substances that have been processed, dyed, breaded, sauced, gravied, ground, pulped, strained, blended, prettified, and sanitized beyond resemblance to any part of any creature that ever lived. The products of nature and agriculture have been made, to all appearances, the products of industry. Both eater and eaten are thus in exile from biological reality. And the result is a kind of solitude, unprecedented in human experience, in which the eater may think of eating as, first, a purely commercial transaction between him and a supplier and then as a purely appetitive transaction between him and his food.

And this peculiar specialization of the act of eating is, again, of obvious benefit to the food industry, which has good reasons to obscure the connection between food and farming. It would not do for the consumer to know that the hamburger she is eating came from a steer who spent much of his life standing deep in his own excrement in a feedlot, helping to pollute the local streams, or that the calf that yielded the veal cutlet on her plate spent its life in a box in which it did not have room to turn around. And, though her sympathy for the slaw might be less tender, she should not be encouraged to meditate on the hygienic and biological implications of mile-square fields of cabbage, for vegetables grown in huge monocultures are dependent on toxic chemicals — just as animals in close confinements are dependent on antibiotics and other drugs.

The consumer, that is to say, must be kept from discovering that, in the food industry — as in any other industry — the overriding concerns are not quality and health, but volume and price. For decades now the entire industrial food economy, from the large farms and feedlots to the chains of supermarkets and fast-food restaurants has been obsessed with volume. It has relentlessly increased scale in order to increase volume in order (probably) to reduce costs. But as scale increases, diversity declines; as diversity declines, so does health; as health declines, the dependence on drugs and chemicals necessarily increases. As capital replaces labor, it does so by substituting machines, drugs, and chemicals for human workers and for the natural health and fertility of the soil. The food is produced by any means or any shortcuts that will increase profits. And the business of the cosmeticians of advertising is to persuade the

consumer that food so produced is good, tasty, healthful, and a guarantee of marital fidelity and long life.

It is possible, then, to be liberated from the husbandry and wifery of the old household food economy. But one can be thus liberated only by entering a trap (unless one sees ignorance and helplessness as the signs of privilege, as many people apparently do). The trap is the ideal of industrialism: a walled city surrounded by valves that let merchandise in but no consciousness out. How does one escape this trap? Only voluntarily, the same way that one went in: by restoring one's consciousness of what is involved in eating; by reclaiming responsibility for one's own part in the food economy. One might begin with the illuminating principle of Sir Albert Howard's , that we should understand "the whole problem of health in soil, plant, animal, and man as one great subject." Eaters, that is, must understand that eating takes place inescapably in the world, that it is inescapably an agricultural act, and how we eat determines, to a considerable extent, how the world is used. This is a simple way of describing a relationship that is inexpressibly complex. To eat responsibly is to understand and enact, so far as we can, this complex relationship. What can one do? Here is a list, probably not definitive:

1. Participate in food production to the extent that you can. If you have a yard or even just a porch box or a pot in a sunny window, grow something to eat in it. Make a little compost of your kitchen scraps and use it for fertilizer. Only by growing some food for yourself can you become acquainted with the beautiful energy cycle that revolves from soil to seed to flower to fruit to food to offal to decay, and around again. You will be fully responsible for any food that you grow for yourself, and you will know all about it. You will appreciate it fully, having known it all its life.
2. Prepare your own food. This means reviving in your own mind and life the arts of kitchen and household. This should enable you to eat more cheaply, and it will give you a measure of "quality control": you will have some reliable knowledge of what has been added to the food you eat.
3. Learn the origins of the food you buy, and buy the food that is produced closest to your home. The idea that every locality should be, as much as possible, the source of its own food makes several kinds of sense. The locally produced food supply is the most secure, freshest, and the easiest for local consumers to know about and to influence.
4. Whenever possible, deal directly with a local farmer, gardener, or orchardist. All the reasons listed for the previous suggestion apply here. In addition, by such dealing you eliminate the whole pack of merchants, transporters, processors, packagers, and advertisers who thrive at the expense of both producers and consumers.
5. Learn, in self-defense, as much as you can of the economy and technology of industrial food production. What is added to the food that is not food, and what do you pay for those additions?
6. Learn what is involved in the best farming and gardening.
7. Learn as much as you can, by direct observation and experience if possible, of the life histories of the food species.

The last suggestion seems particularly important to me. Many people are now as much estranged from the lives of domestic plants and animals (except for flowers and dogs and cats) as they are from the lives of the wild ones. This is regrettable, for these domestic creatures are in diverse ways attractive; there is such pleasure in knowing them. And farming, animal husbandry, horticulture, and gardening, at their best, are complex and comely arts; there is much pleasure in knowing them, too.

It follows that there is great displeasure in knowing about a food economy that degrades and abuses those arts and those plants and animals and the soil from which they come. For anyone who does know something of the modern history of food, eating away from home can be a chore. My own inclination is to eat seafood instead of red meat or poultry when I am traveling. Though I am by no means a vegetarian, I dislike the thought that some animal has been made miserable in order to feed me. If I am going to eat meat, I want it to be from an animal that has lived a pleasant, uncrowded

life outdoors, on bountiful pasture, with good water nearby and trees for shade. And I am getting almost as fussy about food plants. I like to eat vegetables and fruits that I know have lived happily and healthily in good soil, not the products of the huge, bechemicaled factory-fields that I have seen, for example, in the Central Valley of California. The industrial farm is said to have been patterned on the factory production line. In practice, it looks more like a concentration camp.

The pleasure of eating should be an extensive pleasure, not that of the mere gourmet. People who know the garden in which their vegetables have grown and know that the garden is healthy and remember the beauty of the growing plants, perhaps in the dewy first light of morning when gardens are at their best. Such a memory involves itself with the food and is one of the pleasures of eating. The knowledge of the good health of the garden relieves and frees and comforts the eater. The same goes for eating meat. The thought of the good pasture and of the calf contentedly grazing flavors the steak. Some, I know, will think of it as bloodthirsty or worse to eat a fellow creature you have known all its life. On the contrary, I think it means that you eat with understanding and with gratitude. A significant part of the pleasure of eating is in one's accurate consciousness of the lives and the world from which food comes. The pleasure of eating, then, may be the best available standard of our health. And this pleasure, I think, is pretty fully available to the urban consumer who will make the necessary effort.

I mentioned earlier the politics, esthetics, and ethics of food. But to speak of the pleasure of eating is to go beyond those categories. Eating with the fullest pleasure — pleasure, that is, that does not depend on ignorance — is perhaps the profoundest enactment of our connection with the world. In this pleasure we experience and celebrate our dependence and our gratitude, for we are living from mystery, from creatures we did not make and powers we cannot comprehend. When I think of the meaning of food, I always remember these lines by the poet William Carlos Williams, which seem to me merely honest:

There is nothing to eat,
seek it where you will,
but the body of the Lord.
The blessed plants
and the sea, yield it
to the imagination intact.

Forget Shorter Showers by Derrick Jensen

from Orion Magazine, 2009

Would any sane person think dumpster diving would have stopped Hitler, or that composting would have ended slavery or brought about the eight-hour workday, or that chopping wood and carrying water would have gotten people out of Tsarist prisons, or that dancing naked around a fire would have helped put in place the Voting Rights Act of 1957 or the Civil Rights Act of 1964? Then why now, with all the world at stake, do so many people retreat into these entirely personal "solutions"?

Part of the problem is that we've been victims of a campaign of systematic misdirection. Consumer culture and the capitalist mindset have taught us to substitute acts of personal consumption (or enlightenment) for organized political resistance. An Inconvenient Truth helped raise consciousness about global warming. But did you notice that all of the solutions presented had to do with personal consumption — changing light bulbs, inflating tires, driving half as much — and had nothing to do with shifting power away from corporations, or stopping the growth economy that is destroying the planet? Even if every person in the United States did everything the movie suggested, U.S. carbon emissions would fall by only 22 percent. Scientific consensus is that emissions must be reduced by at least 75 percent worldwide.

Or let's talk water. We so often hear that the world is running out of water. People are dying from lack of water. Rivers are dewatered from lack of water. Because of this we need to take shorter showers. See the disconnect? Because I take showers, I'm responsible for

drawing down aquifers? Well, no. More than 90 percent of the water used by humans is used by agriculture and industry. The remaining 10 percent is split between municipalities and actual living breathing individual humans. Collectively, municipal golf courses use as much water as municipal human beings. People (both human people and fish people) aren't dying because the world is running out of water. They're dying because the water is being stolen.

Or let's talk energy. Kirkpatrick Sale summarized it well: "For the past 15 years the story has been the same every year: individual consumption — residential, by private car, and so on — is never more than about a quarter of all consumption; the vast majority is commercial, industrial, corporate, by agribusiness and government [he forgot military]. So, even if we all took up cycling and wood stoves it would have a negligible impact on energy use, global warming and atmospheric pollution."

Or let's talk waste. In 2005, per-capita municipal waste production (basically everything that's put out at the curb) in the U.S. was about 1,660 pounds. Let's say you're a die-hard simple-living activist, and you reduce this to zero. You recycle everything. You bring cloth bags shopping. You fix your toaster. Your toes poke out of old tennis shoes. You're not done yet, though. Since municipal waste includes not just residential waste, but also waste from government offices and businesses, you march to those offices, waste reduction pamphlets in hand, and convince them to cut down on their waste enough to eliminate your share of it. Uh, I've got some bad news. Municipal waste accounts for only 3 percent of total waste production in the United States.

I want to be clear. I'm not saying we shouldn't live simply. I live reasonably simply myself, but I don't pretend that not buying much (or not driving much, or not having kids) is a powerful political act, or that it's deeply revolutionary. It's not. Personal change doesn't equal social change.

So how, then, and especially with all the world at stake, have we come to accept these utterly insufficient responses? I think part of it is that we're in a double bind. A double bind is where you're given multiple options, but no matter what option you choose, you lose, and withdrawal is not an option. At this point, it should be pretty easy to recognize that every action involving the industrial economy is destructive (and we shouldn't pretend that solar photovoltaics, for example, exempt us from this: they still require mining and transportation infrastructures at every point in the production processes; the same can be said for every other so-called green technology). So if we choose option one — if we avidly participate in the industrial economy — we may in the short term think we win because we may accumulate wealth, the marker of "success" in this culture. But we lose, because in doing so we give up our empathy, our animal humanity. And we really lose because industrial civilization is killing the planet, which means everyone loses. If we choose the "alternative" option of living more simply, thus causing less harm, but still not stopping the industrial economy from killing the planet, we may in the short term think we win because we get to feel pure, and we didn't even have to give up all of our empathy (just enough to justify not stopping the horrors), but once again we really lose because industrial civilization is still killing the planet, which means everyone still loses. The third option, acting decisively to stop the industrial economy, is very scary for a number of reasons, including but not restricted to the fact that we'd lose some of the luxuries (like electricity) to which we've grown accustomed, and the fact that those in power might try to kill us if we seriously impede their ability to exploit the world — none of which alters the fact that it's a better option than a dead planet. Any option is a better option than a dead planet.

Besides being ineffective at causing the sorts of changes necessary to stop this culture from killing the planet, there are at least four other problems with perceiving simple living as a political act (as opposed to living simply because that's what you want to do). The first is that it's predicated on the flawed notion that humans inevitably harm their landbase. Simple living as a political act consists solely of harm reduction, ignoring the fact that humans can help the Earth as well as harm it. We can rehabilitate streams, we can get rid of noxious invasives, we can remove dams, we can disrupt a political system

tilted toward the rich as well as an extractive economic system, we can destroy the industrial economy that is destroying the real, physical world.

The second problem — and this is another big one — is that it incorrectly assigns blame to the individual (and most especially to individuals who are particularly powerless) instead of to those who actually wield power in this system and to the system itself. Kirkpatrick Sale again: "The whole individualist what-you-can-do-to-save-the-earth guilt trip is a myth. We, as individuals, are not creating the crises, and we can't solve them."

The third problem is that it accepts capitalism's redefinition of us from citizens to consumers. By accepting this redefinition, we reduce our potential forms of resistance to consuming and not consuming. Citizens have a much wider range of available resistance tactics, including voting, not voting, running for office, pamphleting, boycotting, organizing, lobbying, protesting, and, when a government becomes destructive of life, liberty, and the pursuit of happiness, we have the right to alter or abolish it.

The fourth problem is that the endpoint of the logic behind simple living as a political act is suicide. If every act within an industrial economy is destructive, and if we want to stop this destruction, and if we are unwilling (or unable) to question (much less destroy) the intellectual, moral, economic, and physical infrastructures that cause every act within an industrial economy to be destructive, then we can easily come to believe that we will cause the least destruction possible if we are dead.

The good news is that there are other options. We can follow the examples of brave activists who lived through the difficult times I mentioned — Nazi Germany, Tsarist Russia, antebellum United States — who did far more than manifest a form of moral purity; they actively opposed the injustices that surrounded them. We can follow the example of those who remembered that the role of an activist is not to navigate systems of oppressive power with as much integrity as possible, but rather to confront and take down those systems.

The Gift of Strawberries by Robin Wall Kimmerer

from Braiding Sweetgrass, 2013

I once heard Evon Peter—a Gwich'in man, a father, a husband, an environmental activist, and Chief of Arctic Village, a small village in northeastern Alaska—introduce himself simply as "a boy who was raised by a river." A description as smooth and slippery as a river rock. Did he mean only that he grew up near its banks? Or was the river responsible for rearing him, for teaching him the things he needed to live? Did it feed him, body and soul? Raised by a river: I suppose both meanings are true—you can hardly have one without the other.

In a way, I was raised by strawberries, fields of them. Not to exclude the maples, hemlocks, white pines, goldenrod, asters, violets, and mosses of upstate New York, but it was the wild strawberries, beneath dewy leaves on an almost-summer morning, who gave me my sense of the world, my place in it. Behind our house were miles of old hay fields divided by stone walls, long abandoned from farming but not yet grown up to forest. After the school bus chugged up our hill, I'd throw down my red plaid book bag, change my clothes before my mother could think of a chore, and jump across the crick to go wandering in the goldenrod. Our mental maps had all the landmarks we kids needed: the fort under the sumacs, the rock pile, the river, the big pine with branches so evenly spaced you could climb to the top as if it were a ladder—and the strawberry patches.

White petals with a yellow center—like a little wild rose—they dotted the acres of curl grass in May during the Flower Moon, *waabigwani-giizis*. We kept good track of them, peeking under the trifoliate leaves to check their progress as we ran through on our way to catch frogs. After the flower finally dropped its petals, a tiny green nub appeared in its place, and as the days got longer and warmer it swelled to a small white berry. These were sour but we ate them anyway, impatient for the real thing.

You could smell ripe strawberries before you saw them, the fragrance mingling with the

smell of sun on damp ground. It was the smell of June, the last day of school, when we were set free, and the Strawberry Moon, *ode'mini-giizis*. I'd lie on my stomach in my favorite patches, watching the berries grow sweeter and bigger under the leaves. Each tiny wild berry was scarcely bigger than a raindrop, dimpled with seeds under the cap of leaves. From that vantage point I could pick only the reddest of the red, leaving the pink ones for tomorrow.

Even now, after more than fifty Strawberry Moons, finding a patch of wild strawberries still touches me with a sensation of surprise, a feeling of unworthiness and gratitude for the generosity and kindness that comes with an unexpected gift all wrapped in red and green. "Really? For me? Oh, you shouldn't have." After fifty years they still raise the question of how to respond to their generosity. Sometimes it feels like a silly question with a very simple answer: eat them.

But I know that someone else has wondered these same things. In our Creation stories the origin of strawberries is important. Skywoman's beautiful daughter, whom she carried in her womb from Skyworld, grew on the good green earth, loving and loved by all the other beings. But tragedy befell her when she died giving birth to her twins, Flint and Sapling. Heartbroken, Skywoman buried her beloved daughter in the earth. Her final gifts, our most revered plants, grew from her body. The strawberry arose from her heart. In Potawatomi, the strawberry is ode min, the heart berry. We recognize them as the leaders of the berries, the first to bear fruit.

Strawberries first shaped my view of a world full of gifts simply scattered at your feet. A gift comes to you through no action of your own, free, having moved toward you without your beckoning. It is not a reward; you cannot earn it, or call it to you, or even deserve it. And yet it appears. Your only role is to be open-eyed and present. Gifts exist in a realm of humility and mystery—as with random acts of kindness, we do not know their source.

Those fields of my childhood showered us with strawberries, raspberries, blackberries, hickory nuts in the fall, bouquets of wildflowers brought to my mom, and family walks on Sunday afternoon. They were our playground, retreat, wildlife sanctuary, ecology classroom, and the place where we learned to shoot tin cans off the stone wall. All for free. Or so I thought.

I experienced the world in that time as a gift economy, "goods and services" not purchased but received as gifts from the earth. Of course I was blissfully unaware of how my parents must have struggled to make ends meet in the wage economy raging far from this field.

In our family, the presents we gave one another were almost always homemade. I thought that was the definition of a gift: something you made for someone else. We made all our Christmas gifts: piggy banks from old Clorox bottles, hot pads from broken clothespins, and puppets from retired socks. My mother says it was because we had no money for store-bought presents. It didn't seem like a hardship to me; it was something special.

My father loves wild strawberries, so for Father's Day my mother would almost always make him strawberry shortcake. She baked the crusty shortcakes and whipped the heavy cream, but we kids were responsible for the berries. We each got an old jar or two and spent the Saturday before the celebration out in the fields, taking forever to fill them as more and more berries ended up in our mouths. Finally, we returned home and poured them out on the kitchen table to sort out the bugs. I'm sure we missed some, but Dad never mentioned the extra protein.
In fact, he thought wild strawberry shortcake was the best possible present, or so he had us convinced. It was a gift that could never be bought. As children raised by strawberries, we were probably unaware that the gift of berries was from the fields themselves, not from us. Our gift was time and attention and care and red-stained fingers. Heart berries, indeed.

Gifts from the earth or from each other establish a particular relationship, an obligation of sorts to give, to receive, and to reciprocate. The field gave to us, we gave to my dad, and we tried to give back to the strawberries. When the berry season was done, the plants would send out slender red runners to make new plants. Because I was fascinated by the way they would travel over the ground looking for good places to take root, I would weed out little patches of bare

ground where the runners touched down. Sure enough, tiny little roots would emerge from the runner and by the end of the season there were even more plants, ready to bloom under the next Strawberry Moon. No person taught us this—the strawberries showed us. Because they had given us a gift, an ongoing relationship opened between us.

Farmers around us grew a lot of strawberries and frequently hired kids to pick for them. My siblings and I would ride our bikes a long way to Crandall's farm to pick berries to earn spending money. A dime for every quart we picked. But Mrs. Crandall was a persnickety overseer. She stood at the edge of the field in her bib apron and instructed us how to pick and warned us not to crush any berries. She had other rules, too. "These berries belong to me," she said, "not to you. I don't want to see you kids eating my berries." I knew the difference: In the fields behind my house, the berries belonged to themselves. At this lady's roadside stand, she sold them for sixty cents a quart.

It was quite a lesson in economics. We'd have to spend most of our wages if we wanted to ride home with berries in our bike baskets. Of course those berries were ten times bigger than our wild ones, but not nearly so good. I don't believe we ever put those farm berries in Dad's shortcake. It wouldn't have felt right.

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It's funny how the nature of an object—let's say a strawberry or a pair of socks—is so changed by the way it has come into your hands, as a gift or as a commodity. The pair of wool socks that I buy at the store, red and gray striped, are warm and cozy. I might feel grateful for the sheep that made the wool and the worker who ran the knitting machine. I hope so. But I have no inherent obligation to those socks as a commodity, as private property. There is no bond beyond the politely exchanged "thank yous" with the clerk. I have paid for them and our reciprocity ended the minute I handed her the money. The exchange ends once parity has been established, an equal exchange. They become my property. I don't write a thank-you note to JCPenney.

But what if those very same socks, red and gray striped, were knitted by my grandmother and given to me as a gift? That changes everything. A gift creates ongoing relationship. I will write a thank-you note. I will take good care of them and if I am a very gracious grandchild I'll wear them when she visits even if I don't like them. When it's her birthday, I will surely make her a gift in return. As the scholar and writer Lewis Hyde notes, "It is the cardinal difference between gift and commodity exchange that a gift establishes a feeling-bond between two people."

Wild strawberries fit the definition of gift, but grocery store berries do not. It's the relationship between producer and consumer that changes everything. As a gift-thinker, I would be deeply offended if I saw wild strawberries in the grocery store. I would want to kidnap them all. They were not meant to be sold, only to be given. Hyde reminds us that in a gift economy, one's freely given gifts cannot be made into someone else's capital. I can see the headline now: "Woman Arrested for Shoplifting Produce. Strawberry Liberation Front Claims Responsibility."

This is the same reason we do not sell sweetgrass. Because it is given to us, it should only be given to others. My dear friend Wally "Bear" Meshigaud is a ceremonial firekeeper for our people and uses a lot of sweetgrass on our behalf. There are folks who pick for him in a good way, to keep him supplied, but even so, at a big gathering sometimes he runs out. At powwows and fairs you can see our own people selling sweetgrass for ten bucks a braid. When Wally really needs *wiingashk* for a ceremony, he may visit one of those booths among the stalls selling frybread or hanks of beads. He introduces himself to the seller, explains his need, just as he would in a meadow, asking permission of the sweetgrass. He cannot pay for it, not because he doesn't have the money, but because it cannot be bought or sold and still retain its essence for ceremony. He expects sellers to graciously give him what he needs, but sometimes they don't. The guy at the booth thinks he's being shaken down by an elder. "Hey, you can't get something for nothin'," he says. But that is exactly the point. A gift is something for nothing, except that certain obligations are attached. For the plant to be sacred, it cannot be sold. Reluctant

entrepreneurs will get a teaching from Wally, but they'll never get his money.

Sweetgrass belongs to Mother Earth. Sweetgrass pickers collect properly and respectfully, for their own use and the needs of their community. They return a gift to the earth and tend to the well-being of the *wiingashk*. The braids are given as gifts, to honor, to say thank you, to heal and to strengthen. The sweetgrass is kept in motion. When Wally gives sweetgrass to the fire, it is a gift that has passed from hand to hand, growing richer as it is honored in every exchange.

That is the fundamental nature of gifts: they move, and their value increases with their passage. The fields made a gift of berries to us and we made a gift of them to our father. The more something is shared, the greater its value becomes. This is hard to grasp for societies steeped in notions of private property, where others are, by definition, excluded from sharing. Practices such as posting land against trespass, for example, are expected and accepted in a property economy but are unacceptable in an economy where land is seen as a gift to all.

Lewis Hyde wonderfully illustrates this dissonance in his exploration of the "Indian giver." This expression, used negatively today as a pejorative for someone who gives something and then wants to have it back, actually derives from a fascinating cross-cultural misinterpretation between an indigenous culture operating in a gift economy and a colonial culture predicated on the concept of private property. When gifts were given to the settlers by the Native inhabitants, the recipients understood that they were valuable and were intended to be retained. Giving them away would have been an affront. But the indigenous people understood the value of the gift to be based in reciprocity and would be affronted if the gifts did not circulate back to them. Many of our ancient teachings counsel that whatever we have been given is supposed to be given away again.

From the viewpoint of a private property economy, the "gift" is deemed to be "free" because we obtain it free of charge, at no cost. But in the gift economy, gifts are not free. The essence of the gift is that it creates a set of relationships. The currency of a gift economy is, at its root, reciprocity. In Western thinking, private land is understood to be a "bundle of rights," whereas in a gift economy property has a "bundle of responsibilities" attached.

I was once lucky enough to spend time doing ecological research in the Andes. My favorite part was market day in the local village, when the square filled with vendors. There were tables loaded with *platanos*, carts of fresh papaya, stalls in bright colors with pyramids of tomatoes, and buckets of hairy yucca roots. Other vendors spread blankets on the ground, with everything you could need, from flip-flops to woven palm hats. Squatting behind her red blanket, a woman in a striped shawl and navy blue bowler spread out medicinal roots as beautifully wrinkled as she was. The colors, the smells of corn roasting on a wood fire and sharp limes, and the sounds of all the voices mingle wonderfully in my memory. I had a favorite stall where the owner, Edita, looked for me each day. She'd kindly explain how to cook unfamiliar items and pull out the sweetest pineapple she'd been saving under the table. Once she even had strawberries. I know that I paid the *gringa* prices but the experience of abundance and goodwill were worth every peso.

I dreamed not long ago of that market with all its vivid textures. I walked through the stalls with a basket over my arm as always and went right to Edita for a bunch of fresh cilantro. We chatted and laughed and when I held out my coins she waved them off, patting my arm and sending me away. A gift, she said. *Muchas gracias, señora,* I replied. There was my favorite *panadera,* with clean cloths laid over the round loaves. I chose a few rolls, opened my purse, and this vendor too gestured away my money as if I were impolite to suggest paying. I looked around in bewilderment; this was my familiar market and yet everything had changed. It wasn't just for me—no shopper was paying. I floated through the market with a sense of euphoria. Gratitude was the only currency accepted here. It was all a gift. It was like picking strawberries in my field: the merchants were just intermediaries passing on gifts from the earth.

I looked in my basket; two zucchinis, an onion, tomatoes, bread, and a bunch of cilantro. It was still half empty, but it felt full. I had

everything I needed. I glanced over at the cheese stall, thinking to get some, but knowing it would be given, not sold, I decided I could do without. It's funny: Had all the things in the market merely been a very low price, I probably would have scooped up as much as I could. But when everything became a gift, I felt self-restraint. I didn't want to take too much. And I began thinking of what small presents I might bring to the vendors tomorrow.

The dream faded, of course, but the feelings first of euphoria and then of self-restraint remain. I've thought of it often and recognize now that I was witness there to the conversion of a market economy to a gift economy, from private goods to common wealth. And in that transformation the relationships became as nourishing as the food I was getting. Across the market stalls and blankets, warmth and compassion were changing hands. There was a shared celebration of abundance for all we'd been given. And since every market basket contained a meal, there was justice.

I'm a plant scientist and I want to be clear, but I'm also a poet and the world speaks to me in metaphor. When I speak of the gift of berries, I do not mean that *Fragaria virginiana* has been up all night making a present just for me, strategizing to find exactly what I'd like on a summer morning. So far as we know, that does not happen, but as a scientist, I am well aware of how little we do know. The plant has in fact been up all night assembling little packets of sugar and seeds and fragrance and color, because when it does so its evolutionary fitness is increased. When it is successful in enticing an animal such as me to disperse its fruit, its genes for making yumminess are passed on to ensuing generations with a higher frequency than those of the plant whose berries were inferior. The berries made by the plant shape the behaviors of the dispersers and have adaptive consequences.

Lewis Hyde has made extensive studies of gift economies. He finds that "objects…will remain plentiful *because* they are treated as gifts." A gift relationship with nature is a "formal give-and-take that acknowledges our participation in, and dependence upon, natural increase. We tend to respond to nature as a part of ourselves, not a stranger or alien available for exploitation. Gift exchange is the commerce of choice, or it is commerce that harmonizes with, or participates in, the process of [nature's] increase."

In the old times, when people's lives were so directly tied to the land, it was easy to know the world as a gift. When fall came, the skies would darken with flocks of geese, honking "Here we are." It reminds the people of the Creation story, when the geese game to save Skywoman. The people are hungry, winter is coming, and the geese fill the marshes with good. It is a gift and the people receive it with thanksgiving, love, and respect.

But when food does not come from a flock in the sky, when you don't feel the warm feathers cool in your hand and know that a life has been given for yours, when there is no gratitude in return—that food may not satisfy. It may leave the spirit hungry while the belly is full. Something is broken when the food comes on a Styrofoam tray wrapped in slippery plastic, a carcass of a being whose only chance at life was a cramped cage. That is not a gift of life; it is a theft.

How, in our modern world, can we find our way to understand the earth as a gift again, to make our relations with the world sacred again? I know we cannot all become hunter-gatherers—the living world could not bear our weight—but even in a market economy, can we behave "as if" the living world were a gift?

We could start by listening to Wally. There are those who will try to sell gifts, but, as Wally says of sweetgrass for sale, "Don't buy it." Refusal to participate is a moral choice. Water is a gift for all, not meant to be bought and sold. Don't buy it. When food has been wrenched from the earth, depleting the soil and poisoning our relatives in the name of higher yields, don't buy it.

In material fact, Strawberries belong only to themselves. The exchange relationships we choose determine whether we share them as a common gift or sell them as a private commodity. A great deal rests on that choice. For the greater part of human history, and in places in the world today, common resources were the rule. But some invented a different story, a social construct in which everything is a commodity to

be bought and sold. The market economy story has spread like wildfire, with uneven results for human well-being and devastation for the natural world. But it is just a story we have told ourselves and we are free to tell another, to reclaim the old one.

One of these stories sustains the living systems on which we depend. One of these stories opens the way to living in gratitude and amazement at the richness and generosity of the world. One of these stories asks us to bestow our own gifts in kind, to celebrate our kinship with the world. We can choose. If all the world is a commodity, how poor we grow. When all the world is a gift in motion, how wealthy we become.

In those childhood fields, waiting for strawberries to ripen, I used to eat the sour white ones, sometimes out of hunger but mostly from impatience. I knew the long-term results of my short-term greed, but I took them anyway. Fortunately, our capacity for self-restraint grows and develops like the berries beneath the leaves, so I learned to wait. A little. I remember lying on my back in the fields watching the clouds go by and rolling over to check the berries every few minutes. When I was young, I thought the change might happen that fast. Now I am old and I know that transformation is slow. The commodity economy has been here on Turtle Island for four hundred years, eating up the white strawberries and everything else. But people have grown weary of the sour taste in their mouths. A great longing is upon us, to live again in a world made of gifts. I can scent in coming, like the fragrance of ripening strawberries rising on the breeze.

Where Is The Fiction About Climate Change? by Amitav Ghosh

from The Guardian, October 2016, written as a teaser to his 2016 book The Great Derangement

It is a simple fact that climate change has a much smaller presence in contemporary literary fiction than it does even in public discussion. As proof of this, we need only glance through the pages of literary journals and book reviews. When the subject of climate change occurs, it is almost always in relation to nonfiction; novels and short stories are very rarely to be glimpsed within this horizon. Indeed, it could even be said that fiction that deals with climate change is almost by definition not of the kind that is taken seriously: the mere mention of the subject is often enough to relegate a novel or a short story to the genre of science fiction. It is as though in the literary imagination climate change were somehow akin to extraterrestrials or interplanetary travel.

There is something confounding about this peculiar feedback loop. It is very difficult, surely, to imagine a conception of seriousness that is blind to potentially life-changing threats. And if the urgency of a subject were indeed a criterion of its seriousness, then, considering what climate change actually portends for the future of the Earth, it should surely follow that this would be the principal preoccupation of writers the world over – and this, I think, is very far from being the case. But why?

Why does climate change cast a much smaller shadow on literature than it does on the world? Is it perhaps too wild a stream to be navigated in the accustomed barques of narration? But the truth, as is now widely acknowledged, is that we have entered a time when the wild has become the norm: if certain literary forms are unable to negotiate these waters, then they will have failed – and their failures will have to be counted as an aspect of the broader imaginative and cultural failure that lies at the heart of the climate crisis.

Clearly, the problem does not arise out of a lack of information: there are surely very few writers today who are oblivious to the current disturbances in climate systems the world over. Yet, it is a striking fact that when novelists do choose to write about climate change it is almost always outside fiction. A case in point is the work of Arundhati Roy: not only is she one of the finest prose stylists of our time, she is passionate and deeply informed about climate change. Yet all her writings on these subjects are in various forms of nonfiction.

When I try to think of writers whose imaginative work has communicated a more specific sense of the accelerating changes in our environment, I find myself at a loss; of literary novelists writing in English only a handful of names come to mind: Margaret Atwood, Kurt Vonnegut Jr, Barbara Kingsolver, Doris Lessing, Cormac McCarthy, Ian McEwan and T Coraghessan Boyle. No doubt many other names could be added to this list, but even if it were to be expanded to 100, or more, it would remain true, I think, that the literary mainstream, even as it has become more engagé on many fronts, remains just as unaware of the crisis on our doorstep as the population at large.

I have been preoccupied with climate change for a long time, but it is true of my own work as well, that this subject figures only obliquely in my fiction. I have come to be convinced that this discrepancy is not the result of personal predilections: it arises out of the peculiar forms of resistance that climate change presents to what is now regarded as serious fiction.

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In his seminal essay "The Climate of History", Dipesh Chakrabarty observes that historians will have to revise many of their fundamental assumptions and procedures in this era of the Anthropocene, in which "humans have become geological agents, changing the most basic physical processes of the Earth". I would go further and add that the Anthropocene presents a challenge not only to the arts and humanities, but also to our common sense understandings and beyond that to contemporary culture in general.

There can be no doubt, of course, that this challenge arises in part from the complexities of the technical language that serves as our primary view of climate change. But neither can there be any doubt that it derives also from the practices and assumptions that guide the arts and humanities. To identify how this happens is, I think, a task of the utmost urgency: it may well be the key to understanding why today's culture finds it so hard to deal with climate change. Indeed, this is perhaps the most important question ever to confront culture in the broadest sense – for let us make no mistake: the climate crisis is also a crisis of culture, and thus of the imagination.

Culture generates desires – for vehicles and appliances, for certain kinds of gardens and dwellings – that are among the principal drivers of the carbon economy. A speedy convertible excites us neither because of any love for metal and chrome, nor because of an abstract understanding of its engineering. It excites us because it evokes an image of a road arrowing through a pristine landscape; we think of freedom and the wind in our hair; we envision James Dean and Peter Fonda racing toward the horizon; we think also of Jack Kerouac and Vladimir Nabokov. When we see an advertisement that links a picture of a tropical island to the word paradise, the longings that are kindled in us have a chain of transmission that stretches back to Daniel Defoe and Jean-Jacques Rousseau: the flight that will transport us to the island is merely an ember in that fire. When we see a green lawn that has been watered with desalinated water, in Abu Dhabi or southern California or some other environment where people had once been content to spend their water thriftily in nurturing a single vine or shrub, we are looking at an expression of a yearning that may have been sparked by the novels of Jane Austen. The artefacts and commodities that are conjured up by these desires are, in a sense, at once expressions and concealments of the cultural matrix that brought them into being.

This culture is, of course, intimately linked with the wider histories of imperialism and capitalism that have shaped the world. But to know this is still to know very little about the specific ways in which the matrix interacts with different modes of cultural activity: poetry, art, architecture, theatre, prose fiction and so on. Throughout history these branches of culture have responded to war, ecological calamity and crises of many sorts: why, then, should climate change prove so peculiarly resistant to their practices?

From this perspective, the questions that confront writers and artists today are not just those of the politics of the carbon economy; many of them have to do also with our own practices and the ways in which they make us complicit in the concealments of the broader

culture. For instance, if contemporary trends in architecture, even in this period of accelerating carbon emissions, favour shiny, glass-and-metal-plated towers, do we not have to ask, what are the patterns of desire that are fed by these gestures? If I, as a novelist, choose to use brand names as elements in the depiction of character, do I not need to ask myself about the degree to which this makes me complicit in the manipulations of the marketplace?

In the same spirit, I think it also needs to be asked, what is it about climate change that the mention of it should lead to banishment from the preserves of serious fiction? And what does this tell us about culture writ large and its patterns of evasion?

In a substantially altered world, when sea-level rise has swallowed the Sundarbans and made cities such as Kolkata, New York and Bangkok uninhabitable, when readers and museum-goers turn to the art and literature of our time, will they not look, first and most urgently, for traces and portents of the altered world of their inheritance? And when they fail to find them, what can they do other than to conclude that ours was a time when most forms of art and literature were drawn into the modes of concealment that prevented people from recognising the realities of their plight? Quite possibly, then, this era, which so congratulates itself on its self-awareness, will come to be known as the time of the Great Derangement.

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On the afternoon of March 17, 1978, when I was 21, I was stuck in the middle of the first tornado to hit Delhi in recorded meteorological history. As is often the case with people who are waylaid by unpredictable events, for years afterwards my mind kept returning to my encounter with the tornado. Why had I walked down a road that I almost never took, just before it was struck by a phenomenon that was without historical precedent? To think of it in terms of chance and coincidence seemed only to impoverish the experience: it was like trying to understand a poem by counting the words. I found myself reaching instead for the opposite end of the spectrum of meaning –for the extraordinary, the inexplicable, the confounding. Yet these too did not do justice to my memory of the event.

Novelists inevitably mine their own experience when they write. No less than any other writer have I dug into my own past while writing fiction. It is certainly true that storms, floods and unusual weather events do recur in my books, and this may well be a legacy of the tornado. Yet oddly enough, no tornado has ever figured in my novels. Nor is this due to any lack of effort on my part. Indeed, I have returned to the experience often over the years, hoping to put it to use in a novel, only to meet with failure at every attempt.

On the face of it there is no reason why such an event should be difficult to translate into fiction; after all, many novels are filled with strange happenings. Why then did I fail, despite my best efforts, to send a character down a road that is imminently to be struck by a tornado?

In reflecting on this, I find myself asking, what would I make of such a scene were I to come across it in a novel written by someone else? I suspect that my response would be one of incredulity; I would be inclined to think that the scene was a contrivance of last resort. Surely only a writer whose imaginative resources were utterly depleted would fall back on a situation of such extreme improbability?

Before the birth of the modern novel, wherever stories were told, fiction delighted in the unheard-of and the unlikely. Narratives such as those of The Arabian Nights, Journey to the West and The Decameron proceed by leaping blithely from one exceptional event to another. Novels too proceed in this fashion, but what is distinctive about the form is precisely the concealment of those exceptional moments that serve as the motor of narrative. This is achieved through the insertion of what Franco Moretti, the literary theorist, calls “fillers”. According to Moretti, “fillers function very much like the good manners so important in Austen: they are both mechanisms designed to keep the ‘narrativity’ of life under control – to give a regularity, a ‘style’ to existence”. It is through this mechanism that worlds are conjured up, through everyday details, which function “as the opposite of narrative”.

It is thus that the novel takes its modern form, through "the relocation of the unheard-of toward the background ... while the everyday moves into the foreground". As Moretti puts it, "fillers are an attempt at rationalising the novelistic universe: turning it into a world of few surprises, fewer adventures, and no miracles at all".

This regime of thought imposed itself not only on the arts but also on the sciences. That is why Time's Arrow, Time's Cycle, Stephen Jay Gould's brilliant study of the geological theories of gradualism and catastrophism is, in essence, a study of narrative. In Gould's telling of the story, the catastrophist recounting of the Earth's history is exemplified by Thomas Burnet's Sacred Theory of the Earth (1690) in which the narrative turns on events of "unrepeatable uniqueness". As opposed to this, the gradualist approach, championed by James Hutton (1726–97) and Charles Lyell (1797–1875), privileges slow processes that unfold over time at even, predictable rates. The central credo in this doctrine was: "Nothing could change otherwise than the way things were seen to change in the present." Or, to put it simply: "Nature does not make leaps."

The trouble, however, is that Nature does certainly jump, if not leap. The geological record bears witness to many fractures in time, some of which led to mass extinctions and the like: it was one such, in the form of the Chicxulub asteroid, that probably killed the dinosaurs. It is a fact that catastrophes waylay both the Earth and its individual inhabitants at unpredictable intervals and in the most improbable ways.

Distinctive moments are no less important to modern novels than they are to any other forms of narrative, whether geological or historical. It could not, of course, be otherwise: if novels were not built upon a scaffolding of exceptional moments, writers would be faced with the Borgesian task of reproducing the world in its entirety. But the modern novel, unlike geology, has never been forced to confront the centrality of the improbable: the concealment of its scaffolding of events continues to be essential to its functioning. It is this that makes a certain kind of narrative a recognisably modern novel.

Here, then, is the irony of the "realist" novel: the very gestures with which it conjures up reality are actually a concealment of the real. What this means in practice is that the calculus of probability that is deployed within the imaginary world of a novel is not the same as that which obtains outside it; this is why it is commonly said, "If this were in a novel, no one would believe it". Within the pages of a novel an event that is only slightly improbable in real life – say, an unexpected encounter with a long-lost childhood friend – may seem wildly unlikely: the writer will have to work hard to make it appear persuasive.

If that is true of a small fluke of chance, consider how much harder a writer would have to work to set up a scene that is wildly improbable even in real life. For example, a scene in which a character is walking down a road at the precise moment when it is hit by an unheard-of weather phenomenon?

To introduce such happenings into a novel is in fact to court eviction from the mansion in which serious fiction has long been in residence; it is to risk banishment to the humbler dwellings that surround the manor house – those generic out-houses that were once known by names such as the gothic, the romance or the melodrama, and have now come to be called fantasy, horror and science fiction.

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So far as I know, climate change was not a factor in the tornado I experienced. But the thing it has in common with the freakish weather events of today is its extreme improbability. And it appears that we are now in an era that will be defined precisely by events that appear, by our current standards of normality, highly improbable: flash floods, hundred-year storms, persistent droughts, spells of unprecedented heat, sudden landslides, raging torrents pouring down from breached glacial lakes, and, yes, freakish tornadoes.

This, then, is the first of the many ways in which the age of global warming defies both literary fiction and contemporary common sense: the weather events of this time have a very high degree of improbability. Indeed, it has even been proposed that this era should be named the "catastrophozoic" (others prefer such phrases as

"the long emergency" and "the penumbral period"). It is certain in any case that these are not ordinary times: the events that mark them are not easily accommodated in the deliberately prosaic world of serious prose fiction.

Poetry, on the other hand, has long had an intimate relationship with climatic events: as Geoffrey Parker points out, John Milton began to compose Paradise Lost during a winter of extreme cold, and "unpredictable and unforgiving changes in the climate are central to his story. Milton's fictional world, like the real one in which he lived, was ... a 'universe of death' at the mercy of extremes of heat and cold." This is a universe very different from that of the contemporary literary novel.

I am, of course, painting with a very broad brush: the novel's infancy is long past, and the form has changed in many ways over the last two centuries. Yet, to a quite remarkable degree, the literary novel has also remained true to the destiny that was charted for it at birth. Consider that the literary movements of the 20th century were almost uniformly disdainful of plot and narrative; that an ever greater emphasis was laid on style and "observation", whether it be of everyday details, traits of character or nuances of emotion – which is why teachers of creative writing now exhort their students to "show, don't tell".

Yet fortunately, from time to time, there have also been movements that celebrated the unheard-of and the improbable: surrealism for instance, and most significantly, magical realism, which is replete with events that have no relation to the calculus of probability.

There is, however, an important difference between the weather events that we are now experiencing and those that occur in surrealist and magical realist novels: improbable though they might be, these events are neither surreal nor magical. To the contrary, these highly improbable occurrences are overwhelmingly, urgently, astoundingly real. The ethical difficulties that might arise in treating them as magical or metaphorical or allegorical are obvious.

But there is another reason why, from the writer's point of view, it would serve no purpose to approach them in that way: because to treat them as magical or surreal would be to rob them of precisely the quality that makes them so urgently compelling – which is that they are actually happening on this Earth, at this time.

Capitalism vs. the Climate by Naomi Klein

from The Nation, November 2011

There is a question from a gentleman in the fourth row.

He introduces himself as Richard Rothschild. He tells the crowd that he ran for county commissioner in Maryland's Carroll County because he had come to the conclusion that policies to combat global warming were actually "an attack on middle-class American capitalism." His question for the panelists, gathered in a Washington, DC, Marriott Hotel in late June, is this: "To what extent is this entire movement simply a green Trojan horse, whose belly is full with red Marxist socioeconomic doctrine?"

Here at the Heartland Institute's Sixth International Conference on Climate Change, the premier gathering for those dedicated to denying the overwhelming scientific consensus that human activity is warming the planet, this qualifies as a rhetorical question. Like asking a meeting of German central bankers if Greeks are untrustworthy. Still, the panelists aren't going to pass up an opportunity to tell the questioner just how right he is.

Chris Horner, a senior fellow at the Competitive Enterprise Institute who specializes in harassing climate scientists with nuisance lawsuits and Freedom of Information fishing expeditions, angles the table mic over to his mouth. "You can believe this is about the climate," he says darkly, "and many people do, but it's not a reasonable belief." Horner, whose prematurely silver hair makes him look like a right-wing Anderson Cooper, likes to invoke Saul Alinsky: "The issue isn't the issue." The issue, apparently, is that "no free society would do to itself what this agenda requires.... The first step

to that is to remove these nagging freedoms that keep getting in the way."

Claiming that climate change is a plot to steal American freedom is rather tame by Heartland standards. Over the course of this two-day conference, I will learn that Obama's campaign promise to support locally owned biofuels refineries was really about "green communitarianism," akin to the "Maoist" scheme to put "a pig iron furnace in everybody's backyard" (the Cato Institute's Patrick Michaels). That climate change is "a stalking horse for National Socialism" (former Republican senator and retired astronaut Harrison Schmitt). And that environmentalists are like Aztec priests, sacrificing countless people to appease the gods and change the weather (Marc Morano, editor of the denialists' go-to website, ClimateDepot.com).

Most of all, however, I will hear versions of the opinion expressed by the county commissioner in the fourth row: that climate change is a Trojan horse designed to abolish capitalism and replace it with some kind of eco-socialism. As conference speaker Larry Bell succinctly puts it in his new book Climate of Corruption, climate change "has little to do with the state of the environment and much to do with shackling capitalism and transforming the American way of life in the interests of global wealth redistribution."

Yes, sure, there is a pretense that the delegates' rejection of climate science is rooted in serious disagreement about the data. And the organizers go to some lengths to mimic credible scientific conferences, calling the gathering "Restoring the Scientific Method" and even adopting the organizational acronym ICCC, a mere one letter off from the world's leading authority on climate change, the Intergovernmental Panel on Climate Change (IPCC). But the scientific theories presented here are old and long discredited. And no attempt is made to explain why each speaker seems to contradict the next. (Is there no warming, or is there warming but it's not a problem? And if there is no warming, then what's all this talk about sunspots causing temperatures to rise?)

In truth, several members of the mostly elderly audience seem to doze off while the temperature graphs are projected. They come to life only when the rock stars of the movement take the stage—not the C-team scientists but the A-team ideological warriors like Morano and Horner. This is the true purpose of the gathering: providing a forum for die-hard denialists to collect the rhetorical baseball bats with which they will club environmentalists and climate scientists in the weeks and months to come. The talking points first tested here will jam the comment sections beneath every article and YouTube video that contains the phrase "climate change" or "global warming." They will also exit the mouths of hundreds of right-wing commentators and politicians—from Republican presidential candidates like Rick Perry and Michele Bachmann all the way down to county commissioners like Richard Rothschild. In an interview outside the sessions, Joseph Bast, president of the Heartland Institute, proudly takes credit for "thousands of articles and op-eds and speeches…that were informed by or motivated by somebody attending one of these conferences."

The Heartland Institute, a Chicago-based think tank devoted to "promoting free-market solutions," has been holding these confabs since 2008, sometimes twice a year. And the strategy appears to be working. At the end of day one, Morano—whose claim to fame is having broken the Swift Boat Veterans for Truth story that sank John Kerry's 2004 presidential campaign—leads the gathering through a series of victory laps. Cap and trade: dead! Obama at the Copenhagen summit: failure! The climate movement: suicidal! He even projects a couple of quotes from climate activists beating up on themselves (as progressives do so well) and exhorts the audience to "celebrate!"

There were no balloons or confetti descending from the rafters, but there may as well have been.

* * *

When public opinion on the big social and political issues changes, the trends tend to be relatively gradual. Abrupt shifts, when they come, are usually precipitated by dramatic events. Which is why pollsters are so surprised by what has happened to perceptions about climate change over a span of just four years. A 2007 Harris poll found that 71 percent of

Americans believed that the continued burning of fossil fuels would cause the climate to change. By 2009 the figure had dropped to 51 percent. In June 2011 the number of Americans who agreed was down to 44 percent—well under half the population. According to Scott Keeter, director of survey research at the Pew Research Center for People and the Press, this is "among the largest shifts over a short period of time seen in recent public opinion history."

Even more striking, this shift has occurred almost entirely at one end of the political spectrum. As recently as 2008 (the year Newt Gingrich did a climate change TV spot with Nancy Pelosi) the issue still had a veneer of bipartisan support in the United States. Those days are decidedly over. Today, 70–75 percent of self-identified Democrats and liberals believe humans are changing the climate—a level that has remained stable or risen slightly over the past decade. In sharp contrast, Republicans, particularly Tea Party members, have overwhelmingly chosen to reject the scientific consensus. In some regions, only about 20 percent of self-identified Republicans accept the science.

Equally significant has been a shift in emotional intensity. Climate change used to be something most everyone said they cared about—just not all that much. When Americans were asked to rank their political concerns in order of priority, climate change would reliably come in last.

But now there is a significant cohort of Republicans who care passionately, even obsessively, about climate change—though what they care about is exposing it as a "hoax" being perpetrated by liberals to force them to change their light bulbs, live in Soviet-style tenements and surrender their SUVs. For these right-wingers, opposition to climate change has become as central to their worldview as low taxes, gun ownership and opposition to abortion. Many climate scientists report receiving death threats, as do authors of articles on subjects as seemingly innocuous as energy conservation. (As one letter writer put it to Stan Cox, author of a book critical of air-conditioning, "You can pry my thermostat out of my cold dead hands.")

This culture-war intensity is the worst news of all, because when you challenge a person's position on an issue core to his or her identity, facts and arguments are seen as little more than further attacks, easily deflected. (The deniers have even found a way to dismiss a new study confirming the reality of global warming that was partially funded by the Koch brothers, and led by a scientist sympathetic to the "skeptic" position.)

The effects of this emotional intensity have been on full display in the race to lead the Republican Party. Days into his presidential campaign, with his home state literally burning up with wildfires, Texas Governor Rick Perry delighted the base by declaring that climate scientists were manipulating data "so that they will have dollars rolling into their projects." Meanwhile, the only candidate to consistently defend climate science, Jon Huntsman, was dead on arrival. And part of what has rescued Mitt Romney's campaign has been his flight from earlier statements supporting the scientific consensus on climate change.

But the effects of the right-wing climate conspiracies reach far beyond the Republican Party. The Democrats have mostly gone mute on the subject, not wanting to alienate independents. And the media and culture industries have followed suit. Five years ago, celebrities were showing up at the Academy Awards in hybrids, Vanity Fair launched an annual green issue and, in 2007, the three major US networks ran 147 stories on climate change. No longer. In 2010 the networks ran just thirty-two climate change stories; limos are back in style at the Academy Awards; and the "annual" Vanity Fair green issue hasn't been seen since 2008.

This uneasy silence has persisted through the end of the hottest decade in recorded history and yet another summer of freak natural disasters and record-breaking heat worldwide. Meanwhile, the fossil fuel industry is rushing to make multibillion-dollar investments in new infrastructure to extract oil, natural gas and coal from some of the dirtiest and highest-risk sources on the continent (the $7 billion Keystone XL pipeline being only the highest-profile example). In the Alberta tar sands, in the

Beaufort Sea, in the gas fields of Pennsylvania and the coalfields of Wyoming and Montana, the industry is betting big that the climate movement is as good as dead.

If the carbon these projects are poised to suck out is released into the atmosphere, the chance of triggering catastrophic climate change will increase dramatically (mining the oil in the Alberta tar sands alone, says NASA's James Hansen, would be "essentially game over" for the climate).

All of this means that the climate movement needs to have one hell of a comeback. For this to happen, the left is going to have to learn from the right. Denialists gained traction by making climate about economics: action will destroy capitalism, they have claimed, killing jobs and sending prices soaring. But at a time when a growing number of people agree with the protesters at Occupy Wall Street, many of whom argue that capitalism-as-usual is itself the cause of lost jobs and debt slavery, there is a unique opportunity to seize the economic terrain from the right. This would require making a persuasive case that the real solutions to the climate crisis are also our best hope of building a much more enlightened economic system—one that closes deep inequalities, strengthens and transforms the public sphere, generates plentiful, dignified work and radically reins in corporate power. It would also require a shift away from the notion that climate action is just one issue on a laundry list of worthy causes vying for progressive attention. Just as climate denialism has become a core identity issue on the right, utterly entwined with defending current systems of power and wealth, the scientific reality of climate change must, for progressives, occupy a central place in a coherent narrative about the perils of unrestrained greed and the need for real alternatives.

Building such a transformative movement may not be as hard as it first appears. Indeed, if you ask the Heartlanders, climate change makes some kind of left-wing revolution virtually inevitable, which is precisely why they are so determined to deny its reality. Perhaps we should listen to their theories more closely—they might just understand something the left still doesn't get.

* * *

The deniers did not decide that climate change is a left-wing conspiracy by uncovering some covert socialist plot. They arrived at this analysis by taking a hard look at what it would take to lower global emissions as drastically and as rapidly as climate science demands. They have concluded that this can be done only by radically reordering our economic and political systems in ways antithetical to their "free market" belief system. As British blogger and Heartland regular James Delingpole has pointed out, "Modern environmentalism successfully advances many of the causes dear to the left: redistribution of wealth, higher taxes, greater government intervention, regulation." Heartland's Bast puts it even more bluntly: For the left, "Climate change is the perfect thing.... It's the reason why we should do everything [the left] wanted to do anyway."

Here's my inconvenient truth: they aren't wrong. Before I go any further, let me be absolutely clear: as 97 percent of the world's climate scientists attest, the Heartlanders are completely wrong about the science. The heat-trapping gases released into the atmosphere through the burning of fossil fuels are already causing temperatures to increase. If we are not on a radically different energy path by the end of this decade, we are in for a world of pain.

But when it comes to the real-world consequences of those scientific findings, specifically the kind of deep changes required not just to our energy consumption but to the underlying logic of our economic system, the crowd gathered at the Marriott Hotel may be in considerably less denial than a lot of professional environmentalists, the ones who paint a picture of global warming Armageddon, then assure us that we can avert catastrophe by buying "green" products and creating clever markets in pollution.

The fact that the earth's atmosphere cannot safely absorb the amount of carbon we are pumping into it is a symptom of a much larger crisis, one born of the central fiction on which our economic model is based: that nature is limitless, that we will always be able to find more of what we need, and that if something runs out it can be seamlessly replaced by another

resource that we can endlessly extract. But it is not just the atmosphere that we have exploited beyond its capacity to recover—we are doing the same to the oceans, to freshwater, to topsoil and to biodiversity. The expansionist, extractive mindset, which has so long governed our relationship to nature, is what the climate crisis calls into question so fundamentally. The abundance of scientific research showing we have pushed nature beyond its limits does not just demand green products and market-based solutions; it demands a new civilizational paradigm, one grounded not in dominance over nature but in respect for natural cycles of renewal—and acutely sensitive to natural limits, including the limits of human intelligence.

So in a way, Chris Horner was right when he told his fellow Heartlanders that climate change isn't "the issue." In fact, it isn't an issue at all. Climate change is a message, one that is telling us that many of our culture's most cherished ideas are no longer viable. These are profoundly challenging revelations for all of us raised on Enlightenment ideals of progress, unaccustomed to having our ambitions confined by natural boundaries. And this is true for the statist left as well as the neoliberal right.

While Heartlanders like to invoke the specter of communism to terrify Americans about climate action (Czech President Vaclav Klaus, a Heartland conference favorite, says that attempts to prevent global warming are akin to "the ambitions of communist central planners to control the entire society"), the reality is that Soviet-era state socialism was a disaster for the climate. It devoured resources with as much enthusiasm as capitalism, and spewed waste just as recklessly: before the fall of the Berlin Wall, Czechs and Russians had even higher carbon footprints per capita than their counterparts in Britain, Canada and Australia. And while some point to the dizzying expansion of China's renewable energy programs to argue that only centrally controlled regimes can get the green job done, China's command-and-control economy continues to be harnessed to wage an all-out war with nature, through massively disruptive mega-dams, superhighways and extraction-based energy projects, particularly coal.

It is true that responding to the climate threat requires strong government action at all levels. But real climate solutions are ones that steer these interventions to systematically disperse and devolve power and control to the community level, whether through community-controlled renewable energy, local organic agriculture or transit systems genuinely accountable to their users.

Here is where the Heartlanders have good reason to be afraid: arriving at these new systems is going to require shredding the free-market ideology that has dominated the global economy for more than three decades. What follows is a quick-and-dirty look at what a serious climate agenda would mean in the following six arenas: public infrastructure, economic planning, corporate regulation, international trade, consumption and taxation. For hard-right ideologues like those gathered at the Heartland conference, the results are nothing short of intellectually cataclysmic.

1. Reviving and Reinventing the Public Sphere

After years of recycling, carbon offsetting and light bulb changing, it is obvious that individual action will never be an adequate response to the climate crisis. Climate change is a collective problem, and it demands collective action. One of the key areas in which this collective action must take place is big-ticket investments designed to reduce our emissions on a mass scale. That means subways, streetcars and light-rail systems that are not only everywhere but affordable to everyone; energy-efficient affordable housing along those transit lines; smart electrical grids carrying renewable energy; and a massive research effort to ensure that we are using the best methods possible.

The private sector is ill suited to providing most of these services because they require large up-front investments and, if they are to be genuinely accessible to all, some very well may not be profitable. They are, however, decidedly in the public interest, which is why they should come from the public sector.

Traditionally, battles to protect the public sphere are cast as conflicts between irresponsible leftists who want to spend without limit and

practical realists who understand that we are living beyond our economic means. But the gravity of the climate crisis cries out for a radically new conception of realism, as well as a very different understanding of limits. Government budget deficits are not nearly as dangerous as the deficits we have created in vital and complex natural systems. Changing our culture to respect those limits will require all of our collective muscle—to get ourselves off fossil fuels and to shore up communal infrastructure for the coming storms.

2. Remembering How to Plan

In addition to reversing the thirty-year privatization trend, a serious response to the climate threat involves recovering an art that has been relentlessly vilified during these decades of market fundamentalism: planning. Lots and lots of planning. And not just at the national and international levels. Every community in the world needs a plan for how it is going to transition away from fossil fuels, what the Transition Town movement calls an "energy descent action plan." In the cities and towns that have taken this responsibility seriously, the process has opened rare spaces for participatory democracy, with neighbors packing consultation meetings at city halls to share ideas about how to reorganize their communities to lower emissions and build in resilience for tough times ahead.

Climate change demands other forms of planning as well—particularly for workers whose jobs will become obsolete as we wean ourselves off fossil fuels. A few "green jobs" trainings aren't enough. These workers need to know that real jobs will be waiting for them on the other side. That means bringing back the idea of planning our economies based on collective priorities rather than corporate profitability—giving laid-off employees of car plants and coal mines the tools and resources to create jobs, for example, with Cleveland's worker-run green co-ops serving as a model.

Agriculture, too, will have to see a revival in planning if we are to address the triple crisis of soil erosion, extreme weather and dependence on fossil fuel inputs. Wes Jackson, the visionary founder of the Land Institute in Salina, Kansas, has been calling for "a fifty-year farm bill." That's the length of time he and his collaborators Wendell Berry and Fred Kirschenmann estimate it will take to conduct the research and put the infrastructure in place to replace many soil-depleting annual grain crops, grown in monocultures, with perennial crops, grown in polycultures. Since perennials don't need to be replanted every year, their long roots do a much better job of storing scarce water, holding soil in place and sequestering carbon. Polycultures are also less vulnerable to pests and to being wiped out by extreme weather. Another bonus: this type of farming is much more labor intensive than industrial agriculture, which means that farming can once again be a substantial source of employment.

Outside the Heartland conference and like-minded gatherings, the return of planning is nothing to fear. We are not talking about a return to authoritarian socialism, after all, but a turn toward real democracy. The thirty-odd-year experiment in deregulated, Wild West economics is failing the vast majority of people around the world. These systemic failures are precisely why so many are in open revolt against their elites, demanding living wages and an end to corruption. Climate change doesn't conflict with demands for a new kind of economy. Rather, it adds to them an existential imperative.

3. Reining in Corporations

A key piece of the planning we must undertake involves the rapid re-regulation of the corporate sector. Much can be done with incentives: subsidies for renewable energy and responsible land stewardship, for instance. But we are also going to have to get back into the habit of barring outright dangerous and destructive behavior. That means getting in the way of corporations on multiple fronts, from imposing strict caps on the amount of carbon corporations can emit, to banning new coal-fired power plants, to cracking down on industrial feedlots, to shutting down dirty-energy extraction projects like the Alberta tar sands (starting with pipelines like Keystone XL that lock in expansion plans).

Only a very small sector of the population sees any restriction on corporate or consumer choice as leading down Hayek's road to serfdom

—and, not coincidentally, it is precisely this sector of the population that is at the forefront of climate change denial.

4. Relocalizing Production

If strictly regulating corporations to respond to climate change sounds somewhat radical it's because, since the beginning of the 1980s, it has been an article of faith that the role of government is to get out of the way of the corporate sector—and nowhere more so than in the realm of international trade. The devastating impacts of free trade on manufacturing, local business and farming are well known. But perhaps the atmosphere has taken the hardest hit of all. The cargo ships, jumbo jets and heavy trucks that haul raw resources and finished products across the globe devour fossil fuels and spew greenhouse gases. And the cheap goods being produced—made to be replaced, almost never fixed—are consuming a huge range of other nonrenewable resources while producing far more waste than can be safely absorbed.

This model is so wasteful, in fact, that it cancels out the modest gains that have been made in reducing emissions many times over. For instance, the Proceedings of the National Academy of Sciences recently published a study of the emissions from industrialized countries that signed the Kyoto Protocol. It found that while they had stabilized, that was partly because international trade had allowed these countries to move their dirty production to places like China. The researchers concluded that the rise in emissions from goods produced in developing countries but consumed in industrialized ones was six times greater than the emissions savings of industrialized countries.

In an economy organized to respect natural limits, the use of energy-intensive long-haul transport would need to be rationed—reserved for those cases where goods cannot be produced locally or where local production is more carbon-intensive. (For example, growing food in greenhouses in cold parts of the United States is often more energy-intensive than growing it in the South and shipping it by light rail.)

Climate change does not demand an end to trade. But it does demand an end to the reckless form of "free trade" that governs every bilateral trade agreement as well as the World Trade Organization. This is more good news — for unemployed workers, for farmers unable to compete with cheap imports, for communities that have seen their manufacturers move offshore and their local businesses replaced with big boxes. But the challenge this poses to the capitalist project should not be underestimated: it represents the reversal of the thirty-year trend of removing every possible limit on corporate power.

5. Ending the Cult of Shopping

The past three decades of free trade, deregulation and privatization were not only the result of greedy people wanting greater corporate profits. They were also a response to the "stagflation" of the 1970s, which created intense pressure to find new avenues for rapid economic growth. The threat was real: within our current economic model, a drop in production is by definition a crisis—a recession or, if deep enough, a depression, with all the desperation and hardship that these words imply.

This growth imperative is why conventional economists reliably approach the climate crisis by asking the question, How can we reduce emissions while maintaining robust GDP growth? The usual answer is "decoupling"—the idea that renewable energy and greater efficiencies will allow us to sever economic growth from its environmental impact. And "green growth" advocates like Thomas Friedman tell us that the process of developing new green technologies and installing green infrastructure can provide a huge economic boost, sending GDP soaring and generating the wealth needed to "make America healthier, richer, more innovative, more productive, and more secure."

But here is where things get complicated. There is a growing body of economic research on the conflict between economic growth and sound climate policy, led by ecological economist Herman Daly at the University of Maryland, as well as Peter Victor at York University, Tim Jackson of the University of Surrey and environmental law and policy expert Gus Speth. All raise serious questions about the feasibility of industrialized countries meeting the deep

emissions cuts demanded by science (at least 80 percent below 1990 levels by 2050) while continuing to grow their economies at even today's sluggish rates. As Victor and Jackson argue, greater efficiencies simply cannot keep up with the pace of growth, in part because greater efficiency is almost always accompanied by more consumption, reducing or even canceling out the gains (often called the "Jevons Paradox"). And so long as the savings resulting from greater energy and material efficiencies are simply plowed back into further exponential expansion of the economy, reduction in total emissions will be thwarted. As Jackson argues in Prosperity Without Growth, "Those who promote decoupling as an escape route from the dilemma of growth need to take a closer look at the historical evidence—and at the basic arithmetic of growth."

The bottom line is that an ecological crisis that has its roots in the overconsumption of natural resources must be addressed not just by improving the efficiency of our economies but by reducing the amount of material stuff we produce and consume. Yet that idea is anathema to the large corporations that dominate the global economy, which are controlled by footloose investors who demand ever greater profits year after year. We are therefore caught in the untenable bind of, as Jackson puts it, "trash the system or crash the planet."

The way out is to embrace a managed transition to another economic paradigm, using all the tools of planning discussed above. Growth would be reserved for parts of the world still pulling themselves out of poverty. Meanwhile, in the industrialized world, those sectors that are not governed by the drive for increased yearly profit (the public sector, co-ops, local businesses, nonprofits) would expand their share of overall economic activity, as would those sectors with minimal ecological impacts (such as the caregiving professions). A great many jobs could be created this way. But the role of the corporate sector, with its structural demand for increased sales and profits, would have to contract.

So when the Heartlanders react to evidence of human-induced climate change as if capitalism itself were coming under threat, it's not because they are paranoid. It's because they are paying attention.

6. Taxing the Rich and Filthy

About now a sensible reader would be asking, How on earth are we going to pay for all this? The old answer would have been easy: we'll grow our way out of it. Indeed, one of the major benefits of a growth-based economy for elites is that it allows them to constantly defer demands for social justice, claiming that if we keep growing the pie, eventually there will be enough for everyone. That was always a lie, as the current inequality crisis reveals, but in a world hitting multiple ecological limits, it is a nonstarter. So the only way to finance a meaningful response to the ecological crisis is to go where the money is.

That means taxing carbon, as well as financial speculation. It means increasing taxes on corporations and the wealthy, cutting bloated military budgets and eliminating absurd subsidies to the fossil fuel industry. And governments will have to coordinate their responses so that corporations will have nowhere to hide (this kind of robust international regulatory architecture is what Heartlanders mean when they warn that climate change will usher in a sinister "world government").

Most of all, however, we need to go after the profits of the corporations most responsible for getting us into this mess. The top five oil companies made $900 billion in profits in the past decade; ExxonMobil alone can clear $10 billion in profits in a single quarter. For years, these companies have pledged to use their profits to invest in a shift to renewable energy (BP's "Beyond Petroleum" rebranding being the highest-profile example). But according to a study by the Center for American Progress, just 4 percent of the big five's $100 billion in combined 2008 profits went to "renewable and alternative energy ventures." Instead, they continue to pour their profits into shareholder pockets, outrageous executive pay and new technologies designed to extract even dirtier and more dangerous fossil fuels. Plenty of money has also gone to paying lobbyists to beat back every piece of climate legislation that has reared its head,

and to fund the denier movement gathered at the Marriott Hotel.

Just as tobacco companies have been obliged to pay the costs of helping people to quit smoking, and BP has had to pay for the cleanup in the Gulf of Mexico, it is high time for the "polluter pays" principle to be applied to climate change. Beyond higher taxes on polluters, governments will have to negotiate much higher royalty rates so that less fossil fuel extraction would raise more public revenue to pay for the shift to our postcarbon future (as well as the steep costs of climate change already upon us). Since corporations can be counted on to resist any new rules that cut into their profits, nationalization—the greatest free-market taboo of all—cannot be off the table.

When Heartlanders claim, as they so often do, that climate change is a plot to "redistribute wealth" and wage class war, these are the types of policies they most fear. They also understand that, once the reality of climate change is recognized, wealth will have to be transferred not just within wealthy countries but also from the rich countries whose emissions created the crisis to poorer ones that are on the front lines of its effects. Indeed, what makes conservatives (and plenty of liberals) so eager to bury the UN climate negotiations is that they have revived a postcolonial courage in parts of the developing world that many thought was gone for good. Armed with irrefutable scientific facts about who is responsible for global warming and who is suffering its effects first and worst, countries like Bolivia and Ecuador are attempting to shed the mantle of "debtor" thrust upon them by decades of International Monetary Fund and World Bank loans and are declaring themselves creditors—owed not just money and technology to cope with climate change but "atmospheric space" in which to develop.

* * *

So let's summarize. Responding to climate change requires that we break every rule in the free-market playbook and that we do so with great urgency. We will need to rebuild the public sphere, reverse privatizations, relocalize large parts of economies, scale back overconsumption, bring back long-term planning, heavily regulate and tax corporations, maybe even nationalize some of them, cut military spending and recognize our debts to the global South. Of course, none of this has a hope in hell of happening unless it is accompanied by a massive, broad-based effort to radically reduce the influence that corporations have over the political process. That means, at a minimum, publicly funded elections and stripping corporations of their status as "people" under the law. In short, climate change supercharges the pre-existing case for virtually every progressive demand on the books, binding them into a coherent agenda based on a clear scientific imperative.

More than that, climate change implies the biggest political "I told you so" since Keynes predicted German backlash from the Treaty of Versailles. Marx wrote about capitalism's "irreparable rift" with "the natural laws of life itself," and many on the left have argued that an economic system built on unleashing the voracious appetites of capital would overwhelm the natural systems on which life depends. And of course indigenous peoples were issuing warnings about the dangers of disrespecting "Mother Earth" long before that. The fact that the airborne waste of industrial capitalism is causing the planet to warm, with potentially cataclysmic results, means that, well, the naysayers were right. And the people who said, "Hey, let's get rid of all the rules and watch the magic happen" were disastrously, catastrophically wrong.

There is no joy in being right about something so terrifying. But for progressives, there is responsibility in it, because it means that our ideas—informed by indigenous teachings as well as by the failures of industrial state socialism—are more important than ever. It means that a green-left worldview, which rejects mere reformism and challenges the centrality of profit in our economy, offers humanity's best hope of overcoming these overlapping crises.

But imagine, for a moment, how all of this looks to a guy like Heartland president Bast, who studied economics at the University of Chicago and described his personal calling to me as "freeing people from the tyranny of other people." It looks like the end of the world. It's not, of course. But it is, for all intents and

purposes, the end of his world. Climate change detonates the ideological scaffolding on which contemporary conservatism rests. There is simply no way to square a belief system that vilifies collective action and venerates total market freedom with a problem that demands collective action on an unprecedented scale and a dramatic reining in of the market forces that created and are deepening the crisis.

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At the Heartland conference—where everyone from the Ayn Rand Institute to the Heritage Foundation has a table hawking books and pamphlets—these anxieties are close to the surface. Bast is forthcoming about the fact that Heartland's campaign against climate science grew out of fear about the policies that the science would require. "When we look at this issue, we say, This is a recipe for massive increase in government.... Before we take this step, let's take another look at the science. So conservative and libertarian groups, I think, stopped and said, Let's not simply accept this as an article of faith; let's actually do our own research." This is a crucial point to understand: it is not opposition to the scientific facts of climate change that drives denialists but rather opposition to the real-world implications of those facts.

What Bast is describing—albeit inadvertently—is a phenomenon receiving a great deal of attention these days from a growing subset of social scientists trying to explain the dramatic shifts in belief about climate change. Researchers with Yale's Cultural Cognition Project have found that political/cultural worldview explains "individuals' beliefs about global warming more powerfully than any other individual characteristic."

Those with strong "egalitarian" and "communitarian" worldviews (marked by an inclination toward collective action and social justice, concern about inequality and suspicion of corporate power) overwhelmingly accept the scientific consensus on climate change. On the other hand, those with strong "hierarchical" and "individualistic" worldviews (marked by opposition to government assistance for the poor and minorities, strong support for industry and a belief that we all get what we deserve) overwhelmingly reject the scientific consensus.

For example, among the segment of the US population that displays the strongest "hierarchical" views, only 11 percent rate climate change as a "high risk," compared with 69 percent of the segment displaying the strongest "egalitarian" views. Yale law professor Dan Kahan, the lead author on this study, attributes this tight correlation between "worldview" and acceptance of climate science to "cultural cognition." This refers to the process by which all of us—regardless of political leanings—filter new information in ways designed to protect our "preferred vision of the good society." As Kahan explained in Nature, "People find it disconcerting to believe that behaviour that they find noble is nevertheless detrimental to society, and behaviour that they find base is beneficial to it. Because accepting such a claim could drive a wedge between them and their peers, they have a strong emotional predisposition to reject it." In other words, it is always easier to deny reality than to watch your worldview get shattered, a fact that was as true of die-hard Stalinists at the height of the purges as it is of libertarian climate deniers today.

When powerful ideologies are challenged by hard evidence from the real world, they rarely die off completely. Rather, they become cultlike and marginal. A few true believers always remain to tell one another that the problem wasn't with the ideology; it was the weakness of leaders who did not apply the rules with sufficient rigor. We have these types on the Stalinist left, and they exist as well on the neo-Nazi right. By this point in history, free-market fundamentalists should be exiled to a similarly marginal status, left to fondle their copies of Free to Choose and Atlas Shrugged in obscurity. They are saved from this fate only because their ideas about minimal government, no matter how demonstrably at war with reality, remain so profitable to the world's billionaires that they are kept fed and clothed in think tanks by the likes of Charles and David Koch, and ExxonMobil.

This points to the limits of theories like "cultural cognition." The deniers are doing more than protecting their cultural worldview—they are protecting powerful interests that stand to

gain from muddying the waters of the climate debate. The ties between the deniers and those interests are well known and well documented. Heartland has received more than $1 million from ExxonMobil together with foundations linked to the Koch brothers and Richard Mellon Scaife (possibly much more, but the think tank has stopped publishing its donors' names, claiming the information was distracting from the "merits of our positions").

And scientists who present at Heartland climate conferences are almost all so steeped in fossil fuel dollars that you can practically smell the fumes. To cite just two examples, the Cato Institute's Patrick Michaels, who gave the conference keynote, once told CNN that 40 percent of his consulting company's income comes from oil companies, and who knows how much of the rest comes from coal. A Greenpeace investigation into another one of the conference speakers, astrophysicist Willie Soon, found that since 2002, 100 percent of his new research grants had come from fossil fuel interests. And fossil fuel companies are not the only economic interests strongly motivated to undermine climate science. If solving this crisis requires the kinds of profound changes to the economic order that I have outlined, then every major corporation benefiting from loose regulation, free trade and low taxes has reason to fear.

With so much at stake, it should come as little surprise that climate deniers are, on the whole, those most invested in our highly unequal and dysfunctional economic status quo. One of the most interesting findings of the studies on climate perceptions is the clear connection between a refusal to accept the science of climate change and social and economic privilege. Overwhelmingly, climate deniers are not only conservative but also white and male, a group with higher than average incomes. And they are more likely than other adults to be highly confident in their views, no matter how demonstrably false. A much-discussed paper on this topic by Aaron McCright and Riley Dunlap (memorably titled "Cool Dudes") found that confident conservative white men, as a group, were almost six times as likely to believe climate change "will never happen" than the rest of the adults surveyed. McCright and Dunlap offer a simple explanation for this discrepancy: "Conservative white males have disproportionately occupied positions of power within our economic system. Given the expansive challenge that climate change poses to the industrial capitalist economic system, it should not be surprising that conservative white males' strong system-justifying attitudes would be triggered to deny climate change."

But deniers' relative economic and social privilege doesn't just give them more to lose from a new economic order; it gives them reason to be more sanguine about the risks of climate change in the first place. This occurred to me as I listened to yet another speaker at the Heartland conference display what can only be described as an utter absence of empathy for the victims of climate change. Larry Bell, whose bio describes him as a "space architect," drew plenty of laughs when he told the crowd that a little heat isn't so bad: "I moved to Houston intentionally!" (Houston was, at that time, in the midst of what would turn out to be the state's worst single-year drought on record.) Australian geologist Bob Carter offered that "the world actually does better from our human perspective in warmer times." And Patrick Michaels said people worried about climate change should do what the French did after a devastating 2003 heat wave killed 14,000 of their people: "they discovered Walmart and air-conditioning."

Listening to these zingers as an estimated 13 million people in the Horn of Africa face starvation on parched land was deeply unsettling. What makes this callousness possible is the firm belief that if the deniers are wrong about climate change, a few degrees of warming isn't something wealthy people in industrialized countries have to worry about. ("When it rains, we find shelter. When it's hot, we find shade," Texas Congressman Joe Barton explained at an energy and environment subcommittee hearing.)

As for everyone else, well, they should stop looking for handouts and busy themselves getting unpoor. When I asked Michaels whether rich countries have a responsibility to help poor ones pay for costly adaptations to a warmer climate, he scoffed that there is no reason to give money to countries "because, for some reason, their political system is incapable of adapting."

The real solution, he claimed, was more free trade.

* * *

This is where the intersection between hard-right ideology and climate denial gets truly dangerous. It's not simply that these "cool dudes" deny climate science because it threatens to upend their dominance-based worldview. It is that their dominance-based worldview provides them with the intellectual tools to write off huge swaths of humanity in the developing world. Recognizing the threat posed by this empathy-exterminating mindset is a matter of great urgency, because climate change will test our moral character like little before. The US Chamber of Commerce, in its bid to prevent the Environmental Protection Agency from regulating carbon emissions, argued in a petition that in the event of global warming, "populations can acclimatize to warmer climates via a range of behavioral, physiological, and technological adaptations." These adaptations are what I worry about most.

How will we adapt to the people made homeless and jobless by increasingly intense and frequent natural disasters? How will we treat the climate refugees who arrive on our shores in leaky boats? Will we open our borders, recognizing that we created the crisis from which they are fleeing? Or will we build ever more high-tech fortresses and adopt ever more draconian antiimmigration laws? How will we deal with resource scarcity?

We know the answers already. The corporate quest for scarce resources will become more rapacious, more violent. Arable land in Africa will continue to be grabbed to provide food and fuel to wealthier nations. Drought and famine will continue to be used as a pretext to push genetically modified seeds, driving farmers further into debt. We will attempt to transcend peak oil and gas by using increasingly risky technologies to extract the last drops, turning ever larger swaths of our globe into sacrifice zones. We will fortress our borders and intervene in foreign conflicts over resources, or start those conflicts ourselves. "Free-market climate solutions," as they are called, will be a magnet for speculation, fraud and crony capitalism, as we are already seeing with carbon trading and the use of forests as carbon offsets. And as climate change begins to affect not just the poor but the wealthy as well, we will increasingly look for techno-fixes to turn down the temperature, with massive and unknowable risks.

As the world warms, the reigning ideology that tells us it's everyone for themselves, that victims deserve their fate, that we can master nature, will take us to a very cold place indeed. And it will only get colder, as theories of racial superiority, barely under the surface in parts of the denial movement, make a raging comeback. These theories are not optional: they are necessary to justify the hardening of hearts to the largely blameless victims of climate change in the global South, and in predominately African-American cities like New Orleans.

In The Shock Doctrine, I explore how the right has systematically used crises—real and trumped up—to push through a brutal ideological agenda designed not to solve the problems that created the crises but rather to enrich elites. As the climate crisis begins to bite, it will be no exception. This is entirely predictable. Finding new ways to privatize the commons and to profit from disaster are what our current system is built to do. The process is already well under way

The only wild card is whether some countervailing popular movement will step up to provide a viable alternative to this grim future. That means not just an alternative set of policy proposals but an alternative worldview to rival the one at the heart of the ecological crisis—this time, embedded in interdependence rather than hyper-individualism, reciprocity rather than dominance and cooperation rather than hierarchy.

Shifting cultural values is, admittedly, a tall order. It calls for the kind of ambitious vision that movements used to fight for a century ago, before everything was broken into single "issues" to be tackled by the appropriate sector of business-minded NGOs. Climate change is, in the words of the Stern Review on the Economics of Climate Change, "the greatest example of market failure we have ever seen." By all rights, this reality should be filling progressive sails with conviction, breathing new life and urgency into longstanding fights against everything from free

trade to financial speculation to industrial agriculture to third-world debt, while elegantly weaving all these struggles into a coherent narrative about how to protect life on earth.

But that isn't happening, at least not so far. It is a painful irony that while the Heartlanders are busily calling climate change a left-wing plot, most leftists have yet to realize that climate science has handed them the most powerful argument against capitalism since William Blake's "dark Satanic Mills" (and, of course, those mills were the beginning of climate change). When demonstrators are cursing out the corruption of their governments and corporate elites in Athens, Madrid, Cairo, Madison and New York, climate change is often little more than a footnote, when it should be the coup de grâce.

Half of the problem is that progressives—their hands full with soaring unemployment and multiple wars—tend to assume that the big green groups have the climate issue covered. The other half is that many of those big green groups have avoided, with phobic precision, any serious debate on the blindingly obvious roots of the climate crisis: globalization, deregulation and contemporary capitalism's quest for perpetual growth (the same forces that are responsible for the destruction of the rest of the economy). The result is that those taking on the failures of capitalism and those fighting for climate action remain two solitudes, with the small but valiant climate justice movement—drawing the connections between racism, inequality and environmental vulnerability—stringing up a few swaying bridges between them.

The right, meanwhile, has had a free hand to exploit the global economic crisis to cast climate action as a recipe for economic Armageddon, a surefire way to spike household costs and to block new, much-needed jobs drilling for oil and laying new pipelines. With virtually no loud voices offering a competing vision of how a new economic paradigm could provide a way out of both the economic and ecological crises, this fearmongering has had a ready audience.

Far from learning from past mistakes, a powerful faction in the environmental movement is pushing to go even further down the same disastrous road, arguing that the way to win on climate is to make the cause more palatable to conservative values. This can be heard from the studiously centrist Breakthrough Institute, which is calling for the movement to embrace industrial agriculture and nuclear power instead of organic farming and decentralized renewables. It can also be heard from several of the researchers studying the rise in climate denial. Some, like Yale's Kahan, point out that while those who poll as highly "hierarchical" and "individualist" bridle at any mention of regulation, they tend to like big, centralized technologies that confirm their belief that humans can dominate nature. So, he and others argue, environmentalists should start emphasizing responses such as nuclear power and geoengineering (deliberately intervening in the climate system to counteract global warming), as well as playing up concerns about national security.

The first problem with this strategy is that it doesn't work. For years, big green groups have framed climate action as a way to assert "energy security," while "free-market solutions" are virtually the only ones on the table in the United States. Meanwhile, denialism has soared. The more troubling problem with this approach, however, is that rather than challenging the warped values motivating denialism, it reinforces them. Nuclear power and geoengineering are not solutions to the ecological crisis; they are a doubling down on exactly the kind of short-term hubristic thinking that got us into this mess.

It is not the job of a transformative social movement to reassure members of a panicked, megalomaniacal elite that they are still masters of the universe—nor is it necessary. According to McCright, co-author of the "Cool Dudes" study, the most extreme, intractable climate deniers (many of them conservative white men) are a small minority of the US population—roughly 10 percent. True, this demographic is massively overrepresented in positions of power. But the solution to that problem is not for the majority of people to change their ideas and values. It is to attempt to change the culture so that this small but disproportionately influential minority—and the reckless worldview it represents—wields significantly less power.

* * *

Some in the climate camp are pushing back hard against the appeasement strategy. Tim DeChristopher, serving a two-year jail sentence in Utah for disrupting a compromised auction of oil and gas leases, commented in May on the right-wing claim that climate action will upend the economy. "I believe we should embrace the charges," he told an interviewer. "No, we are not trying to disrupt the economy, but yes, we do want to turn it upside down. We should not try and hide our vision about what we want to change—of the healthy, just world that we wish to create. We are not looking for small shifts: we want a radical overhaul of our economy and society." He added, "I think once we start talking about it, we will find more allies than we expect."

When DeChristopher articulated this vision for a climate movement fused with one demanding deep economic transformation, it surely sounded to most like a pipe dream. But just five months later, with Occupy Wall Street chapters seizing squares and parks in hundreds of cities, it sounds prophetic. It turns out that a great many Americans had been hungering for this kind of transformation on many fronts, from the practical to the spiritual.

Though climate change was something of an afterthought in the movement's early texts, an ecological consciousness was woven into OWS from the start—from the sophisticated "gray water" filtration system that uses dishwater to irrigate plants at Zuccotti Park, to the scrappy community garden planted at Occupy Portland. Occupy Boston's laptops and cellphones are powered by bicycle generators, and Occupy DC has installed solar panels. Meanwhile, the ultimate symbol of OWS—the human microphone—is nothing if not a postcarbon solution.

And new political connections are being made. The Rainforest Action Network, which has been targeting Bank of America for financing the coal industry, has made common cause with OWS activists taking aim at the bank over foreclosures. Anti-fracking activists have pointed out that the same economic model that is blasting the bedrock of the earth to keep the gas flowing is blasting the social bedrock to keep the profits flowing. And then there is the historic movement against the Keystone XL pipeline, which this fall has decisively yanked the climate movement out of the lobbyists' offices and into the streets (and jail cells). Anti-Keystone campaigners have noted that anyone concerned about the corporate takeover of democracy need look no further than the corrupt process that led the State Department to conclude that a pipeline carrying dirty tar sands oil across some of the most sensitive land in the country would have "limited adverse environmental impacts." As 350.org's Phil Aroneanu put it, "If Wall Street is occupying President Obama's State Department and the halls of Congress, it's time for the people to occupy Wall Street."

But these connections go beyond a shared critique of corporate power. As Occupiers ask themselves what kind of economy should be built to displace the one crashing all around us, many are finding inspiration in the network of green economic alternatives that has taken root over the past decade—in community-controlled renewable energy projects, in community-supported agriculture and farmers' markets, in economic localization initiatives that have brought main streets back to life, and in the co-op sector. Already a group at OWS is cooking up plans to launch the movement's first green workers' co-op (a printing press); local food activists have made the call to "Occupy the Food System!"; and November 20 is "Occupy Rooftops"—a coordinated effort to use crowd-sourcing to buy solar panels for community buildings.

Not only do these economic models create jobs and revive communities while reducing emissions; they do so in a way that systematically disperses power—the antithesis of an economy by and for the 1 percent. Omar Freilla, one of the founders of Green Worker Cooperatives in the South Bronx, told me that the experience in direct democracy that thousands are having in plazas and parks has been, for many, "like flexing a muscle you didn't know you had." And, he says, now they want more democracy—not just at a meeting but also in their community planning and in their workplaces.

In other words, culture is rapidly shifting. And this is what truly sets the OWS moment apart. The Occupiers—holding signs that said Greed Is Gross and I Care About You—decided

early on not to confine their protests to narrow policy demands. Instead, they took aim at the underlying values of rampant greed and individualism that created the economic crisis, while embodying—in highly visible ways—radically different ways to treat one another and relate to the natural world.

This deliberate attempt to shift cultural values is not a distraction from the "real" struggles. In the rocky future we have already made inevitable, an unshakable belief in the equal rights of all people, and a capacity for deep compassion, will be the only things standing between humanity and barbarism. Climate change, by putting us on a firm deadline, can serve as the catalyst for precisely this profound social and ecological transformation.

Culture, after all, is fluid. It can change. It happens all the time. The delegates at the Heartland conference know this, which is why they are so determined to suppress the mountain of evidence proving that their worldview is a threat to life on earth. The task for the rest of us is to believe, based on that same evidence, that a very different worldview can be our salvation.

Kneel at the Feet of the Mother of the Food You Eat and Ask Her to Adopt You by Martín Prechtel

from The Unlikely Peace at Cuchumaquic: The Parallel Lives of People As Plants—Keeping The Seeds Alive, 2012

Find your people's seeds. Lacking those, find seeds of the edible plants you love the most. Then find their stories. Then go further, find their scientifically explained origins, then find their real mythological origins. Then with a deep heart ask the seeds if they are willing to die planted in the ground to feed the presence of humans, because that's what seeds are: a funeral whose generosity feeds us.

Then plant them in our backyard so as to grow food to feed your family and surrounding area. Better still, grow them in your front yard too. Get good at it. Don't let the seeds down.

Everybody stuck in modernity must grow food right where they sit. It's fine if you have a special garden area or own a wealthy farm with a lot of machines and workers, but plant food everywhere, especially around your house. You can make it even more fantastically beautiful than your flower garden, way more beautiful than your house. Your house will be a hundred times more beautiful for the garden of food made of origins stories, and your attention to making certain that there are little tiny beautiful toad places and uncultivated mysterious spots throughout dedicated to the wildness of the Holy in Nature.

If you live in a modern society, every individual must not only know how to grow grain, fruit, leafy vegetables, fruited vegetables, roots and tubers—they must actually *do* it and keep doing it.

No matter how luxurious a life, no matter what kind of maladjusted, cubbyholed, cyberwired life you drag around in, you must, no matter how unlikely the conditions, cultivate food plants or food-giving animals, learn to cook beautifully, and feed your neighbors.

If you live in the modern world and aren't growing food somehow, then someone or something is starving on account of you while you take up space and nutrients. Stop living in coffee shops and get out under the leaf litter. The Holy is certainly not being fed by your sitting around thinking about it. Better to grow food and feed somebody beautiful food than whine, get pale, and rot.

Even so, in the end, nobody can truly carry their own weight alone. We must help one another with the inefficient beauty of food and the majestic learning of its growth. When you consider what just one citified human this day and age takes out of the Holy earth to support them for five minutes, a thinking person could despair. But that kind of despair is just laziness with a college education, for if you carry well just even a small chunk of that weight, it will be more help than you can estimate, especially when it comes to what in the modern world is called an "energy crisis," your physical health, and a general open pollination of a well-proportioned mental vision of yourself and all those you touch.

Turn that worthless lawn into a beautiful garden of food whose seeds are stories sown, whose foods are living origins. Grow a garden on the flat roof of your apartment building, raise bees on the roof of your garage, grow onions in the iris bed, plant fruit and nut trees that bear, don't plant "ornamentals," and for God's sake don't complain about the ripe fruit staining your carpet and your driveway; rip out the carpet, trade food to someone who raises sheep for wool, learn to weave carpets that can be washed, tear out your driveway, plant the nine kinds of sacred berries of your ancestors, raise chickens and feed them from your garden, use your fruit in the grandest of ways, grow grapevines, make dolmas, wine, invite your fascist neighbors over to feast, get to know their ancestral grief that made them prefer a narrow mind, start gardening together, turn both your griefs into food; instead of converting them, convert their garage into a wine, root, honey and cheese cellar—who knows, peace might break out, but if not you still have all that beautiful food to feed the rest and the sense of humor the Holy gave you to know you're not worthless because you can feed both the people and the Holy with your two little able fists.

And when you garden or farm, then you have to remember that when you harvest, there is no difference between pulling off a ripe ear of corn from the stalk and cutting the throat of a lamb to eat the meat. Living things on this earth live only because of the death and generosity of other living things. No one is more "evolved" because they eat only vegetables.

There is nothing in the world wrong about eating only the children of plants, eating only vegetables, as long as you don't feel superior to someone else who is omnivorous, who eats the children of animals, for both of you eat what has been killed.

And don't fool yourself into thinking that by only eating plants you are lessening the suffering of living beings because you think plants are nonsentient.

To indigenous people worldwide, plants are the most sentient beings of all and should be respected as much as any animal should. They just have a larger, more temporally spread-out nervous system than most humans can sense, which can be better measured geologically in eons instead of minutes, millennia instead of day, by synaptic wave patterns like the rippled growth of stalactites in a cave.

The old Tzutujil, for example, held animals as "organs" of plants. Plants extended beyond their roots, stalks, leaves, and flowers, and had four basic parts. One was a smaller plant or fungi that grew at its root, the next was a land mammal that lived in, on, around the plant, or in the shade of its trunk, the next was a flying animal, bird, or insect that resided in its branches, and then there was the plant itself.

The fungi were the kidneys, intestines, and memory of the plants. The animal was its moving part, the bird its "calling" voice and lungs for the plant's body, which was the "seeded" largesse of providence for all the other three and the skeleton upon which all life was dressed as its flesh.

Every plant had their specific mammals, reptiles, amphibians, birds, and fungi that were "part" of each specific plant and no other. For instance, a balsa tree had a specific delicious mushroom that grew in tiers at her massive knee-like roots, a kinkajou for her mammal, who drank the cuplike nectar of her flowers, and snub-nosed bat for its flyer. Any of these seen on another tree was considered meandering parts of the balsa!

The entire world suffers for the rest of the world to thrive. It's all about generosity; it is about not escaping a life where suffering is how things work.

You cannot pretend that you are not causing suffering by picking peas because you're not killing the pea plant, or that by eating plums your not hurting the plum tree because your harvesting doesn't kill the tree.

But according to the timbre of the spiritual understanding of all indigenous seed agreements between ourselves and the Wild in Nature, by harvesting the seeds of a domesticated plant such as a sweet pea before the plant can naturally reproduce (and the same for a plum fruit), there is no difference in magnitude between either of these and drinking the milk of goats or cows or taking the eggs of chickens or ducks.

For in every case it is an instance of a "mother" plant or animal giving up her children

for you to eat at your dinner table, or a "mother" giving up her own children's sustenance, plant or animal, to feed your children.

Better than sitting around feeling superior for adherence to any kind of food habit, it would be better for you to physically kneel in front of your mother fruit tree, and at the knees of your milk cow, or at the woolly face of your ewe, and ask permission to speak to them, and then ask that they adopt you, for you ra re none other than the one who has already eaten her children and drunk her children's milk; tell her you want to be accepted as her lamb because, indeed, you are fed by no other.

This is precisely what people say in Romania, Bulgaria, Laos, Sami Lappmark, Niger Merle, Mongolia, Yakutia, and hundreds of other places where they still understand why, and it is a central part of the Agreement of all tribal people worldwide.

I remember seeing Tzutujil men in the steep cultivated slopes of the south volcanic outlands of Atitlán, angry about a boundary infringement by the neighboring tribe who had without permission sown acres of white corn on Tzutujil land. This "army" of Mayan males fumed and seethed in complaint the entire fifteen miles to the site of the "crime," but upon seeing so much tasseling enemy corn thriving on the stolen land, they fell instantly to their knees en masse, caressing the waving stalks, addressing them in simultaneous prayer:

> It's good to see your face again, Mother
> Good to feel your refreshing breath again, Mother
> We, the drinkers of liquid, the consumers of your children
> Kneel at your feet, and thrive in your arms
> We, your flowers, we, your sprouts today, though we be the world's greatest forgetters today, we do not forget you,
> Please hold us orphans at your roots, as your children hold us in your branches and let us live again…

We are allowed out folly, but it must always end in a discovery of our love for what loves us by dying to feed us, more than we love our hate.

What so often passes for "compassion" is generally a passive-aggressive theater of dogma and condescension whose pitying heights feed no one, and only serves to inflate the "compassionate" nailed into his armchair of superiority. Superiority and "holier than thou" make it so their wielders cannot fall in love. And let me tell you, a life without the tears of real love for a man, a woman, God, an animal, a land, a plant, or the earth ain't nothing worth being superior about.

We can't learn to live according to an agreement or understand in any degree the depth of nature's constant grief and beauty of how she makes life out of her losses, unless we live with and tend the plants and animals that labor so hard and die to feed us.

It is really arrogant to think you should be above and outside this constant reality that all things live only because another has died to give them life through food; wanting to transcend this unavoidable core of all existence can only mean you want to have your cake and eat it too.

Trying to meditate or levitate away from the grief of this living reality is the same as taking no responsibility to the Holy in Nature for your existence. This is *not* spiritual.

The elegance of being a nonsarcastic lover of the mother in all things that feeds us and our capacity to feel the grief of her generosity through her losses to maintain all species, our own capacity to then push our grief of that recognition through the ability of our hands and language into tangible gifts of beauty and usefulness to that Mother Animal and Plant is a hint that our capacity to learn how to feed the Holy in Nature is beginning to sprout.

This is the beginning of the literacy of seeds that is learned only through their cultivation by way of an Agreement: that only through the consciousness of the reality of their loss to feed you, and the realization that plants and animals are not shackled minions or complacent slaves, or victims to be badly farmed or ranched cruelly or shuffled about as dead matter, but your superiors, raver, better things,

who through their generous deaths and the honor of your preparing beautiful food of them that goes to feed a beautiful people who also know how to receive it, people who feed and don't waste, disparage, or take their food for granted, can the Holy in Nature that gives us life, give us as well this opportunity to become spiritually educated humans, through the sacred career of spiritual farming.

Therefore let's plant it up, learn the origins of all things, weep, live, and love, and continue searching for our ancestors' original food seeds.

Reinhabitation by Gary Snyder

from The Old Ways, 1977

I came to the Pacific slope by a line of people that somehow worked their way west from the Atlantic over 150 years. One grandfather ended up in the Territory of Washington and homesteaded in Kitsap County. My mother's side were railroad people down in Texas, and before that they'd worked the silver mines in Leadville, Colorado. My grandfather being a homesteader and my father a native of the state of Washington put our family relatively early in the Northwest. But there were people already there, long before my family, I learned as a boy. An elderly Salish Indian gentleman came by our farm once every few months in a Model T truck, selling smoked salmon. "Who is he?" "He's an Indian," my parents said.

Looking at all the different trees and plants that made up my secondgrowth Douglas fir forest plus cow pasture childhood universe, I realized that my parents were short on a certain kind of knowledge. They could say, "That's a Doug fir, that's a cedar, that's bracken fern," but I perceived a subtlety and complexity in those woods that went far beyond a few names.

As a child I spoke with the old Salishan man a few times over the years he made these stops—then, suddenly, he never came back. I sensed what he represented, what he knew, and what it meant to me: he knew better than anyone else I had ever met where I was. I had no notion of a white American or European heritage providing an identity; I defined myself by relation to the place. Later I also understood that "English language" is an identity—and later, via the hearsay of books, received the full cultural and historical view—but never forgot, or left, that first ground, the "where" of our "who are we?"

There are many people on the planet now who are not "inhabitants." Far from their home villages; removed from ancestral territories; moved into town from the farm; went to pan gold in California—work on the pipeline—work for Bechtel in Iran. Actual inhabitants—peasants, paisanos, paysan, peoples of the land, have been dismissed, laughed at, and overtaxed for centuries by the urban-based ruling elites. The intellectuals haven't the least notion of what kind of sophisticated, attentive, creative intelligence it takes to "grow food." Virtually all the plants in the gardens and the trees in the orchards, the sheep, cows, and goats in the pastures were domesticated in the Neolithic, before "civilization." The differing regions of the world have long had—each—their own precise subsistence pattern developed over millennia by people who had settled in there and learned what particular kinds of plants the ground would "say" at that spot.

Humankind also clearly wanders. Four million years ago those smaller protohumans were moving in and out of the edges of forest and grassland in Africa—fairly warm, open enough to run in. At some point moving on, catching fire, sewing clothes, swinging around the arctic, setting out on amazing sea voyages. During the middle and late Pleistocene, large-fauna hunting era, a fairly nomadic grassland-and-tundra hunting life was established, with lots of mobility across northern Eurasia in particular. With the decline of the Ice Age—and here's where we are—most of the big-game hunters went out of business. There was possibly a population drop in Eurasia and the Americas, as the old techniques no longer worked.

Countless local ecosystem habitation styles emerged. People developed specific ways to be in each of those niches: plant knowledge, boats, dogs, traps, nets, fishing—the smaller animals and smaller tools. From steep jungle slopes of Southwest China to coral atolls to barren arctic deserts—a spirit of what it was to be

there evolved that spoke of a direct sense of relation to the "land"—which really means, the totality of the local bioregion system, from cirrus clouds to leaf mold.

Inhabitory peoples sometimes say, "This piece of land is sacred"—or "all the land is sacred." This is an attitude that draws on awareness of the mystery of life and death, of taking life to live, of giving life back—not only to your own children but to the life of the whole land.

Abbé Breuil, the French prehistorian who worked extensively in the caves of southern France, has pointed out that the animal murals in those twenty-thousand-year-old caves describe fertility as well as hunting—the birth of little bison and cow calves. They show a tender and accurate observation of the qualities and personalities of different creatures, implying a sense of the mutuality of life and death in the food chain and what I take to be a sense of the sacramental quality of that relationship.

Inhabitation does not mean "not traveling." The term does not of itself define the size of a territory. The size is determined by the bioregion type. The bison hunters of the great plains are as surely in a "territory" as the Indians of northern California, though the latter may have seldom ventured farther than thirty miles from where they were born. Whether a vast grassland or a brushy mountain, the Peoples knew their geography. Any member of a hunting society could recall and visualize any spot in the surrounding landscape and tell you what was there, how to get there. "That's where you'd get some cattails." The bushmen of the Kalahari Desert could locate a buried ostrich egg full of emergency water in the midst of a sandy waste—walk right up and dig it out: "I put this here three years ago, just in case."

As always, Ray Dasmann's terms are useful to make these distinctions: "ecosystem-based cultures" and "biosphere cultures." By that Dasmann means societies whose life and economies are centered in terms of natural regions and watersheds, as against those who discovered—seven or eight thousand years ago in a few corners of the globe—that it was "profitable" to spill over into another drainage, another watershed, another people's territory, and steal away its resources, natural or human. Thus, the Roman Empire would strip whole provinces for the benefit of the capital, and villa-owning Roman aristocrats would have huge slave-operated farms in the south using giant wheeled plows. Southern Italy never recovered. We know the term imperialism—Dasmann's concept of "biosphere cultures" helps us realize that biological exploitation is a critical part of imperialism, too: the species made extinct, the clear-cut forests.

All that wealth and power pouring into a few centers had bizarre results. Philosophies and religions based on fascination with society, hierarchy, manipulation, and the "absolute." A great edifice called "the state" and the symbols of central power—in China what they used to call "the true dragon"; in the West, as Mumford says, symbolized perhaps by that Bronze Age fort called the Pentagon. No wonder Lévi-Strauss says that civilization has been in a long decline since the Neolithic.

So here in the twentieth century we find Occidentals and Orientals studying each other's wisdom, and a few people on both sides studying what came before both—before they forked off. A book like *Black Elk Speaks*, which would probably have had zero readership in 1900, is perceived now as speaking of certain things that nothing in the Judeo-Christian tradition, and very little in the Hindu-Buddhist tradition, deals with. All the world religions remain primarily human-centered. That next step is excluded or forgotten—"well, what do you say to Magpie? What do you say to Rattlesnake when you meet him?" What do we learn from Wren, and Hummingbird, and Pine Pollen, and how? Learn what? Specifics: how to spend a life facing the current; or what it is perpetually to die young; or how to be huge and calm and eat anything (Bear). But also, that we are many selves looking at each other, through the same eye.

The reason many of us want to make this step is simple, and is explained in terms of the forty-thousand-year looping back that we seem to be involved in. Sometime in the last twenty years the best brains of the Occident discovered to their amazement that we live in an Environment. This discovery has been forced on us by the realization that we are approaching the

limits of something. Stewart Brand said that the photograph of the earth (taken from outer space by a satellite) that shows the whole blue orb with spirals and whorls of cloud was a great landmark for human consciousness. We see that it has a shape, and it has limits. We are back again, now, in the position of our Mesolithic forebears—working off the coasts of southern Britain, or the shores of Lake Chad, or the swamps of Southeast China, learning how to live by the sun and the green at that spot. We once more know that we live in a system that is enclosed in a certain way, that has its own kinds of limits, and that we are interdependent with it.

The ethics or morality of this is far more subtle than merely being nice to squirrels. The biological-ecological sciences have been laying out (implicitly) a spiritual dimension. We must find our way to seeing the mineral cycles, the water cycles, air cycles, nutrient cycles as sacramental—and we must incorporate that insight into our own personal spiritual quest and integrate it with all the wisdom teachings we have received from the nearer past. The expression of it is simple: feeling gratitude to it all; taking responsibility for your own acts; keeping contact with the sources of the energy that flow into your own life (namely dirt, water, flesh).

Another question is raised: is not the purpose of all this living and studying the achievement of self-knowledge, self-realization? How does knowledge of place help us know the Self? The answer, simply put, is that we are all composite beings, not only physically but intellectually, whose sole individual identifying feature is a particular form or structure changing constantly in time. There is no "self" to be found in that, and yet oddly enough, there is. Part of you is out there waiting to come into you, and another part of you is behind you, and the "just this" of the ever-present moment holds all the transitory little selves in its mirror. The Avatamsaka ("Flower Wreath") jeweled-net-interpenetration-ecological-systemsemptiness-consciousness tells us no self-realization without the Whole Self, and the whole self is the whole thing.

Thus, knowing who we are and knowing where we are are intimately linked. There are no limits to the possibilities of the study of who and where, if you want to go "beyond limits"—and so, even in a world of biological limits, there is plenty of open mind-space to go out into.

Summing Up

In Wendell Berry's essay "The Unsettling of America," he points out that the way the economic system works now, you're penalized if you try to stay in one spot and do anything well. It's not just that the integrity of Native American land is threatened, or national forests and parks; it's all land that's under the gun, and any person or group of people who tries to stay there and do some one thing well, long enough to be able to say, "I really love and know this place," stands to be penalized. The economics of it works so that anyone who jumps at the chance for quick profit is rewarded—doing proper agriculture means not to jump at the most profitable chance—proper forest management or game management means doing things with the far future in mind—and the future is unable to pay us for it right now. Doing things right means living as though your grandchildren would also be alive, in this land, carrying on the work we're doing right now, with deepening delight.

I saw old farmers in Kentucky last spring who belong in another century. They are inhabitants; they see the world they know crumbling and evaporating before them in the face of a different logic that declares, "Everything you know, and do, and the way you do it, mean nothing to us." How much more the pain and loss of elegant cultural skills on the part of the nonwhite Fourth World primitive remnant cultures—who may know the special properties of a certain plant or how to communicate with dolphins, skills the industrial world might never regain. Not that special, intriguing knowledges are the real point: it's the sense of the magic system, the capacity to hear the song of Gaia at that spot, that's lost.

Reinhabitory refers to the tiny number of persons who come out of the industrial societies (having collected or squandered the fruits of eight thousand years of civilization) and then start to turn back to the land, back to place. This comes for some with the rational and scientific realization of interconnectedness and planetary

limits. But the actual demands of a life committed to a place, and living somewhat by the sunshine green-plant energy that is concentrating in that spot, are so physically and intellectually intense that it is a moral and spiritual choice as well.

Mankind has a rendezvous with destiny in outer space, some have predicted. Well: we are already traveling in space—this is the galaxy, right here. The wisdom and skill of those who studied the universe firsthand, by direct knowledge and experience, for millennia, both inside and outside themselves, are what we might call the Old Ways. Those who envision a possible future planet on which we continue that study, and where we live by the green and the sun, have no choice but to bring whatever science, imagination, strength, and political finesse they have to the support of the inhabitory people—natives and peasants of the world. In making common cause with them, we become "reinhabitory." And we begin to learn a little of the Old Ways, which are outside of history, and forever new.

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The Man Who Planted Trees by Jean Giono

Originally published in French in 1953. This English translation was for Frédéric Back's 1987 Oscar-winning short film. Transcribed by Jeff Wagner.

Many years ago, I set out on a walking tour high in the Alps, a region quite unknown to travelers where ancient mountains thrust down into Provence. The trek began on barren moors twelve or thirteen hundred meters above sea level through land that was bleak and monotonous. Nothing grew there but wild lavender. My route led across the region at its widest point, and after hiking for three days, I found myself in a wasteland desolate beyond description. I made camp near the remains of an abandoned village. The day before, my water supply had run out and I had to find some. The cluster of houses, although they were in ruins reminding me of an old wasps nest, made me think that once there must have been a fountain, perhaps a well.

There was indeed a fountain, but it was dry.

The roofless houses, eaten away by wind and rain and the chapel with its crumbling belfry stood arranged like houses and churches in a living village, but here, life had vanished. It was a sunny, cloudless June day, but over these highlands blew a fierce, insufferable wind. Growling through the skeletons of the houses, it sounded like a wild beast disturbed while feeding on its prey. I had to move camp.

After five hours of walking, I still had found no water, and I could see nothing that gave me hope of finding any. Everywhere, I came upon the same drought, the same course weeds.

In the distance, something caught my eye: a thin, dark shape that I took for a tree stump. But just in case, I walked towards it. It was a shepherd. And beside him, resting on the barren ground, lay about thirty sheep. He let me drink from his gourd, and presently, he led me to his sheep fold in a hollow in the plain. He drew water – and very excellent water it was too – from a very deep natural well over which he had rigged a simple windlass.

The man spoke very little, often the way with people who live alone, but he appeared sure of himself, and confident in his assurance. It all seemed somehow strange in this barren land. He lived not in a hut, but in a real house: a stone house whose walls clearly showed how his own labor had repaired the ruin it had once been. Its roof was solid and strong, and the wind on its tiles sounded like the sea upon the seashore. Inside, it was neat and tidy: dishes washed, floor swept, shotgun oiled, his soup simmered over the fire. And I noticed that he was freshly shaved, that all his buttons were firmly sewed on, and that all his clothes were darned with that meticulous care that makes the mend invisible.

He shared his soup with me. When I offered him my tobacco pipe, he told me that he did not smoke. The dog, silent like his master, was friendly without fawning. It had been agreed that I would spend the night. The nearest village was still almost two day's walk away.

Villages in this region were few and far between, and I knew well what they were like.

Four or five of them were scattered over the slopes of these highlands, each one at the very end of a car track among copses of white oaks. They were inhabited by charcoal burners. The living was poor, and families huddled together in a climate very harsh both in summer and winter found their struggle for survival made more bitter by their isolation. There was no relief.

Their constant longing to escape became a crazy ambition. Endlessly, the men carted their charcoal to town then returned home. Even the most stable characters crack under the constant grind. The woman seethed with resentment and there was rivalry in everything: the sale of charcoal and the church pew. There were rivals in virtue and rivals in vice and the battle royal between virtue and vice raged incessantly. And always, there was the wind, the ever-present wind constantly grating on the nerves. There were epidemics of suicide and many cases of madness, nearly always ending in murder.

The shepherd who did not smoke went to fetch a little sack and onto the table he emptied a pile of acorns. He began to examine them very carefully, one by one, separating the good from the bad. I sat, smoking my pipe. I offered to help, but he told me it was his work. And indeed, seeing how very carefully he carried out his task, I did not insist. That was the only time we spoke.

When he had set aside enough acorns, he divided them into piles of ten. As he did this, he discard the smaller ones or those that were cracked, for now, he was examining them very very closely. When finally there lay before him a hundred perfect acorns, he stopped and we went to our beds.

Being with this man brought a great sense of peace.

The following morning, I asked him if I might stay on and rest for the day. He found that quite natural, or to be more precise, he gave me the impression that nothing could upset him. The day of rest was not absolutely necessary, but I was intrigued, and I wanted to learn more about him.

He let the sheep out of the pen and led them to their grazing. Before he went, he took the little bag of carefully chosen acorns and put them into a pail of water to soak. I noticed that for a walking staff, he carried an iron rod about as thick as my thumb and as high as my shoulder.

Pretending to take a leisurely stroll, I followed him at a distance, but keeping on a parallel path with him. The pasture for his sheep was down in a dell. Leaving his dog in charge of the little flock, he began to climb towards me where I was standing. I feared he was coming to reproach me. Not at all. It happened to be on his way, and he invited me to go with him if I had nothing better to do. He was going a little farther on to the top of the hill.

When we reached his destination, he began to drive his iron staff into the ground. He made a hole, dropped in an acorn, and filled in the hole. He was planting oak trees. I asked him if he owned the land. He said no. Did he know who owned it? He did not. He thought it was common land, parish property, or perhaps it belonged to people who did not care about it. That did not concern him. And so with infinite care, he planted his hundred acorns. After the midday meal, he began to sort out more of his acorns. I suppose I must have been quite insistent with my questions, because he answered me.

For three years, he had been planting trees in that desolate country. He had planted one hundred thousand. Of the hundred thousand, twenty thousand had come up. Of these, he still expected to lose half, either to rodents or to any of the unpredictable things which only providence can account for. That left ten thousand oaks to grow on this tract of land where before, there was nothing.

It was then that I wondered about the man's age. He was clearly more than fifty. Fifty-five, he told me. His name was Elzéard Bouffier. He had owned a farm down in the lowlands. It had been his life. He had lost his only son, and then his wife, and had withdrawn into his solitude where he was content to live quietly with his lambs and his dog. It was his opinion that the land was dying for lack of trees. He added that having nothing very important to do himself, he had resolved to remedy the state of affairs.

I was young and only thought of the future as it affected me and my happiness. So I told him that in thirty years, those ten thousand oaks would be magnificent. He answered quite simply

that if god granted him life, in thirty years, he would have planted so many more that these ten thousand would be like a drop of water in the sea.

Already, he was studying the growth of beech trees and had a nursery of seedlings grown from beech nuts. They were quite beautiful. He was also thinking of birches for the dales where, he told me, there was moisture just below the surface of the soil.

The next day, we parted.

The following year came the first world war, in which I was engaged for five years. An infantryman was hardly likely to have trees on his mind.

After demobilization, I found myself the possessor of a small gratuity and a great desire to breathe pure air. This was my only thought when I set off once more on the road to the barren land. The country had not changed, however, in the distance, beyond the deserted village, I noticed a sort of grayish mist that lay on the hilltops like a carpet. The shepherd who planted trees had been in my mind since the day before. “Ten thousand oak trees,” I thought to myself, “really need a lot of space.” I had seen so many people die in those five years, it was easy to imagine that Elzéard Bouffier, too, was dead. Especially since at twenty, we think of men of fifty as ancient with nothing left to do but die.

He was not dead. He had changed his occupation. He had only four sheep left, but now, he had over a hundred hives of bees. He had given up sheep because they threatened his young trees. The war had not disturbed him, and he had calmly continued his planting.

The oaks of 1910 were now ten years old and taller than either of us. It was such an impressive sight, I was struck down. And as he never said a word, we spent the whole day in silence walking through his forest. It was in three sections and measured eleven kilometers long and three kilometers at its widest. When I reminded myself that all this was the work of the hand and soul of one man with no mechanical help, it seemed to me that men could be as effective as god in tasks other than destruction.

He had followed his dream, and beech trees as high as my shoulder and stretching as far as the eye could see were witness to it. The oaks were strong and past being at the mercy of rodents. As for providence, she would have needed a cyclone to destroy this creation of man.

He showed me handsome groves of five-year-old birches, planted in 1915, the year I was fighting at the Battle of Verdun. He had set them out in all the hollows where he guessed, and rightly, there was moisture near the surface. They were like young children, tender, yet firm and confident.

And creation, it seemed, had just followed in a natural sequence. He hadn’t worried about it. Resolutely, he had gone about his simple task. On the way down through the village, I saw streams flowing with water which in living memory had always been dry. This was truly the most impressive effect of creation’s natural cycle that I had ever seen. Long ago, these brooks had been full of water. Among the miserable villages I mentioned before, some were built on sites of ancient Roman villages, and archeologists, digging in the ruins, had found fishhooks, whereas in the 20th century, cisterns were needed to ensure even a modest supply of water.

The wind had scattered seeds too, and as the water reappeared, so did willow trees, reeds, meadows, gardens, flowers, and a reason for living. But the change had come about so gradually that it was simply taken for granted. Of course, hunters who climbed these heights in search of hares and wild boar had noticed the sudden appearance of little trees, but had put it down to some caprice of nature. That is why no one had meddled with the work of the shepherd; if they had suspected it was man’s work, they would have interfered. But who would even think of him? Who in the villages or among the authorities could ever have imagined such constant, magnificent generosity?

Each year from 1920 on, I payed a visit to Elzéard Bouffier. I never saw him lose heart, nor was he ever deterred. And often, god knows, it must have seemed that heaven itself was against him. I never tried to imagine his frustrations, but to achieve such an end, he much have had to overcome many obstacles. For such passion to succeed, he must surely have fought and conquered despair. We must remember that this exceptional man had worked in utter solitude, solitude so complete that towards the end of his

life, he lost the habit of speech. Or, perhaps, he saw no need for it.

In 1933, he was visited by an astonished forester who notified him of an order that lighting fires outdoors was forbidden for fear of endangering this natural forest. It was the first time, the forester told him naively, that he had ever seen a forest grow of its own accord. In 1935, a whole delegation from the authorities arrived to look at the natural forest. There was a high-ranking official from the forestry department, an elected member of parliament, technical experts. And there was a great deal of talk. It was decided something must be done. Fortunately, nobody did anything except for the one good thing: the forest was placed under government protection and charcoal burning was prohibited. For it was really quite impossible not to be enchanted by the beauty of these young healthy trees, and they had even managed to cast their spell over the member of parliament.

One of the senior foresters in the delegation was a friend of mine, and I explained the mystery to him. The following week, we both set out to find Elzéard Bouffier. He was hard at work about twenty kilometers from where the official inspection had taken place. I was right about my friend the forester; he was able to appreciate all he saw. I offered the eggs I had brought as a present. We all shared our lunch and spent several hours in silent contemplation of the landscape.

The slopes we had climbed on our way up were covered with tall trees four times our own height. I remembered how it had looked in 1913: desolate. But quiet, regular work, brisk mountain air, the simple life, and above all, peace of mind, had endowed this old man with almost awe-inspiring health. He was one of god's athletes. I wondered how many more hectare he would cover with trees. Before we took our leave, my friend made one small suggestion about the kinds of tree which seemed to suit the soil here. He did not press the point, "for the simple reason," he told me afterwards, "that this man knows more about it than I do." The idea must have been turning over in his mind, for after we had walked for an hour he added, "he knows more about it than anyone else in the world. He's found a perfect way to be happy." Thanks to this forester, not only the forest, but the happiness of Elzéard Bouffier were protected.

The only serious danger to his work occurred during the second world war: cars being powered by wood-burning generators. There was never enough wood. So, cutting was begun among the oaks of 1910, but they were so far from transportation routes that the whole enterprise proved financially unsound. It was abandoned.

The shepherd knew nothing of all this. He was thirty kilometers away, quietly going about his business, ignoring the war of '39 just as he had ignored it in 1914. I saw Elzéard Bouffier for the last time in June 1945. He was then eighty-seven. Again I had set out on the road to those barren moors, but now, in spite of the dislocation left behind by the war, there was a bus that ran from the Durance valley up into the mountains. I decided it must be because of this relatively speedy means of transport that I could not recognize the places where my walks used to lead me. It took the name of a village to reassure me that I really was in that region that had once been desolate and abandoned.

The bus dropped me at Vergon. In 1913, this hamlet of no more than a dozen houses had three inhabitants: wild creatures who hated each other who set snares to make a living. They were people without hope. Now everything was different, even the air itself. Instead of the harsh, dry winds of the past, there was a gentle breeze full of fragrance. From the mountaintops came a sound like rushing water. It was the wind rustling through the forest. And then, even more astonishing, I heard another sound of water. I saw that they had built a fountain that was splashing merrily. And beside it, what I found most touching, someone had planted a linden tree: the perfect symbol of rebirth. Moreover, Vergon showed signs of the kind of labor that only hope can inspire. So hope had been restored.

Ruins had been cleared, and crumbling walls torn down. The new houses, freshly roughcast, stood in kitchen gardens where flowers and vegetables grew in orderly confusion. Roses and cabbages, snapdragons and leeks, celery and anemones. It had become a place where one would want to live.

From this point, I continued on foot. The war had not been over long enough for life to reach full bloom, but Lazarus had emerged from the tomb. On the lower slopes of the mountain, I could see small fields of young barley and rye, and down in the narrow valleys, the meadows were green.

It has taken only eight years since then for the whole countryside to glow with health and prosperity. Where I had seen ruins in 1913, there now stand clean, freshly plastered farmhouses: evidence of happy, comfortable lives. Dry springs fed by snows and rains now conserved by the forest have begun to flow again. In the maple groves, each farm has its fountain, brimming over onto carpets of fresh mint.

Bit by bit, the villages have been rebuilt. People have come to settle from down in the plains where land is expensive. They have brought youth, life, and the spirit of adventure. On the roads, one meets people glowing with health, and boys and girls laughing as they enjoy their rustic pleasures.

Counting those who lived here before, quite changed by their light and gentle surroundings, and including the newcomers, more than ten thousand people owe their happiness to Elzéard Bouffier.

When I think that one man, one body, and one spirit was enough to turn a desert into the land of Canaan, I find after all that a man's destiny can be truly wonderful. But when I consider the passionate determination, the unfailing generosity of spirit it took to achieve this end, I am filled with admiration for this old, unlearned peasant who was able to complete a task worthy of god.

Elzéard Bouffier died peacefully in Banon in 1947.

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Survival and Sacrament by Gary Snyder

from The Practice of the Wild, 1990

One time when the Master was washing his bowls, he saw two birds contending over a frog. A monk who also saw this asked, "Why does it come to that?"

The Master replied, "It's only for your benefit."

-Dong-Shan

An End to Birth

In the midst of the An Lushan rebellion and the destruction of Ch'ang-an, the capital, Du Fu wrote a poem, "Spring View", that grieves for Ch'ang-an and all of China. It opens:

The State is destroyed, but the mountains and rivers survive.

It is one of the most famous of Chinese poems, well known in Japan as well. The Japanese poet Nanao Sakaki has recently reversed this line to give it a contemporary reading:

The mountains and rivers are destroyed, but the State survives.

One has to travel outside North America to appreciate this. Speaking to a group of Chinese writers and intellectuals in Beijing in 1984 about the need to include riverbanks and forest slopes in the workers-and-peasants councils, I quoted Nanao's version of the great line. They responded with a pained laugh.

It is said that about a million and a half species of animals and plants have been scientifically described, and that there are anywhere from ten to thirty million species of organisms on earth. Over half of all the species on earth are thought to live in the moist tropical forests (Wilson, 1989, 108). About half of those forests, in Asia, Africa, and South America, are already gone. (At the same time there are seven million homeless children on the streets of Brazil. Are vanishing trees being reborn as unwanted children?) It looks like the remainder of the forests will be gone but for tiny patches by the year 2000. A clearcut or even a mile-wide strip-mine pit will heal in geological time. The extinction of a species, each one a pilgrim of four billion years of evolution, is an irreversible loss. The ending of the lines of so many creatures with whom we have traveled this far is an occasion of profound sorrow and grief. Death can be accepted and to some degree transformed. But the loss of lineages and all their future young is

not something to accept. It must be rigorously and intelligently resisted.

Defend all of these plants, bugs, and animals equally? Little invertebrates that have never been seen in a zoo or a wildlife magazine? Species that are but a hair away from one another? It isn't just a case of unique lineages but the lives of overall ecosystems (a larger sort of almost-organism) that are at stake. Some archly argue that extinction has always been the fate of species and communities alike. Some quote a Buddhist teaching back at us: "all is impermanent." Indeed. All the more reason to move gently and cause less harm. Large highly adapted vertebrates, once lost, will never return in the forms we have known them. Hundreds of millions of years might elapse before the equivalent of a whale or an elephant is seen again, if ever. The scale
of loss is beyond any measure the planet has ever known. "Death is one thing, an end to birth is something else" (Soule and Wilcox, 1980,8).

But there is no end in view to birth for humans. The world's human population has doubled since mid-century to over five billion. It will be eight and a half billion by 2025. An estimated billion and a half people in the Third World will soon be running short of firewood, while people of the developed nations are driving five hundred million cars (Keyfitz, 1989, 121). Throughout the 1980s population growth outstripped economic growth in the Third World. There is no "demographic transition" visible on the horizon that will stabilize birthrates in the Third World.

There are criteria for discussing the carrying capacity of the planet. Proposing an ecologically optimal number of humans is not an automatic demand that some be killed or that abortion become mandatory, as some people seem to think. It is a proposal for discussion. If acted on, the reduction of numbers would be accomplished by a lower birthrate over decades or even centuries. I once speculated that 10 percent of the world's current (1990) population of five plus billion might be a target to aim for, one that would guarantee space and habitat for all, including wildlife. My figure has been quoted with a certain disbelief—citing my "obsession with wilderness" (Guha, 1989, 73). Population was 10 percent of what it is now about the year 1650! At that time the 550 million or so souls on earth were living in the presence of great architecture, art, and literature and debating long-established philosophies and religions—the same ones we still are grappling with.

Our immediate business, and our quarrel, is with ourselves. It would be presumptuous to think that Gaia much needs our prayers or healing vibes. Human beings themselves are at risk—not just on some survival-of-civilization level but more basically on the level of heartandsoul. We are in danger of losing our souls. Weareignorant of our own nature and confused about what it means to be a human being. Much of this book has been the reimagining of what we have been and done, and the robust wisdom of our earlier ways. Like Ursula Le Guin's Always Coming Home—a genuine teaching text—this book has been a meditation on what it means to be human.

It is this present time, the twelve thousand or so years since the ice age and the twelve thousand or so years yet to come, that is our little territory. We will be judged or judge ourselves by how we have lived with each other and the world during these two decamillennia. If we are here for any good purpose at all (other than collating texts, running rivers, and learning the stars), I suspect it is to entertain the rest of nature. A gang of sexy primate clowns. All the little critters creep in close to listen when human beings are in a good mood and willing to play some tunes.

Cultured or Crabbed

We still only know what we know: "The flavors of the peach and the apricot are not lost from generation to generation. Neither are they transmitted by book-learning" (Ezra Pound). The rest is hearsay. There is strength, freedom, sustainability, and pride in being a practiced dweller in your own surroundings, knowing what you know. There are two kinds of knowing.

One is that which grounds and places you in your actual condition. You know north from south, pine from fir, in which direction the new moon might be found, where the water comes from, where the garbage goes, how to shake hands, how to sharpen a knife, how the interest

rates work. This sort of knowledge itself can enhance public life and save endangered species. We learn it by revivifying culture, which is like reinhabitation: moving back into a terrain that has been abused and half-forgotten—and then replanting trees, dechannelizing streambeds, breaking up asphalt. What—some would say—if there's no "culture" left? There always is—just as much as there's always (no matter where) place and language. One's culture is in the family and the community, and it lights up when you start to do some real work together, or play, tell stories, act up— or when someone gets sick, or dies, or is born—or at a gathering like Thanksgiving. A culture is a network of neighborhoods or communities that is rooted and tended. It has limits, it is ordinary. "She's very cultured" shouldn't mean elite, but more like "well-fertilized."

(The term culture goes back to Latin meanings, via colere, such as "worship, attend to, cultivate, respect, till, take care of." The root *kwel basically means to revolve around a center —cognate with wheel and Greek telosy "completion of a cycle," hence teleology. In Sanskrit this is chakra, "wheel," or "great wheel of the universe," The modern Hindi word is charkha, "spinning wheel"—with which Gandhi meditated the freedom of India while in prison.)

The other kind of knowledge comes from straying outside. Thoreau writes of the crab apple, "Our wild apple is wild only like myself, perchance, who belong not to the aboriginal race here, but have strayed into the woods from cultivated stock." John Muir carries these thoughts along. In *Wild Wool* he quotes a farmer friend who tells him, "Culture is an orchard apple; Nature is a crab." (To go back to the wild is to become sour, astringent, crabbed. Unfertilized, unpruned, tough, resilient, and every spring shockingly beautiful in bloom.) Virtually all contemporary people are cultivated stock, but we can stray back into the woods.

One departs the home to embark on a quest into an archetypal wilderness that is dangerous, threatening, and full of beasts and hostile aliens. This sort of encounter with the other—both the inner and the outer—requires giving up comfort and safety, accepting cold and hunger, and being willing to eat anything. You may never see home again. Loneliness is your bread. Your bones may turn up someday in some riverbank mud. It grants freedom, expansion, and release. Untied. Unstuck. Crazy for a while. It breaks taboo, it verges on transgression, it teaches humility. Going out—fasting— singing alone—talking across the species boundaries—praying— giving thanks—coming back.

On the mythical plane this is the source of the worldwide hero narratives. On the spiritual plane it requires embracing the other as oneself and stepping across the line—not "becoming one" or mixing things up but holding the sameness and difference delicately in mind. It can mean seeing the houses, roads, and people of your old place as for the first time. It can mean every word heard is heard to its deepest echo. It can mean mysterious tears of gratitude. Our "soul" is our dream of the other.

There is a movement toward creating a "culture of the wilderness" from within contemporary civilization. The Deep Ecology philosophers and the struggles and arguments which have taken place between them and the Green movement, the Social Ecologists, and the Ecofeminists are all part of the emerging realization that this could be tried. Deep Ecology thinkers insist that the natural world has value in its own right, that the health of natural systems should be our first concern, and that this best serves the interests of humans as well. They are well aware that primary people everywhere are our teachers in these values (Sessions and Devall, 1985). The emergence of Earth First! brings a new level of urgency, boldness, and humor into environmentalism. Direct-action techniques that go back to the civil rights and labor movement days are employed in ecological issues. With Earth First!, the Great Basin finally steps onto the stage of world politics. The established environmental organizations are forced by these mavericks to become more activist. At the same time there is a rapidly growing grassroots movement in Asia, Borneo, Brazil, Siberia. It is a cause for hope that so many people worldwide—from Czech intellectuals to rainforest-dwelling mothers in Sarawak—are awakening to their power.

The original American environmental tradition came out of the politics of public lands

and wildlife (geese, fish, ducks—hence the Audubon Society, the Izaak Walton League, and Ducks Unlimited). For decades a narrow but essential agenda of wilderness preservation took up everyone's volunteer time. With the 1970s "conservation" became "environmentalism" as concerns extended out of the wilderness areas to broader matters of forest management, agriculture, water and air pollution, nuclear power, and all the other issues we know so well. Environmental concerns and politics have spread worldwide. In some countries the focus is almost entirely on human health and welfare issues. It is proper that the range of the movement should run from wildlife to urban health. But there can be no health for humans and cities that bypasses the rest of nature. A properly radical environmentalist position is in no way anti-human. We grasp the pain of the human condition in its full complexity, and add the awareness of how desperately endangered certain key species and habitats have become. We get a lot of our information—paradoxically—from deep inside civilization, from the biological and social sciences. The critical argument now within environmental circles is between those who operate from a human-centered resource management mentality and those whose values reflect an awareness of the integrity of the whole of nature. The latter position, that of Deep Ecology, is politically livelier, more courageous, more convivial, riskier, and more scientific.

It comes again to an understanding of the subtle but critical difference of meaning between the terms nature and wild. Nature is the subject, they say, of science. Nature can be deeply probed, as in microbiology. The wild is not to be made subject or object in this manner; to be approached it must be admitted from within, as a quality intrinsic to who we are. Nature is ultimately in no way endangered; wilderness is. The wild is indestructible, but we might not jee the wild.

A culture of wilderness starts somewhere in this terrain. Civilization is part of nature—our egos play in the fields of the unconscious—history takes place in the Holocene—human culture is rooted in the primitive and the paleolithic—our body is a vertebrate mammal being—and our souls are out in the wilderness.

> All together elsewhere, vast
> Herds of reindeer move across
> Miles and miles of golden moss,
> Silently and very fast.
>
> W. H. Auden,
> from "The Fall of Rome"

Grace

There is a verse chanted by Zen Buddhists called the "Four Great Vows." The first line goes: "Sentient beings are numberless, I vow to save them." *Shujomuhen seigando*. It's a bit daunting to announce this intention—aloud—to the universe daily. This vow stalked me for several years and finally pounced: I realized that I had vowed to let the sentient beings save me. In a similar way, the precept against taking life, against causing harm, doesn't stop in the negative. It is urging us to give life, to undo harm.

Those who attain some ultimate understanding of these things are called "Buddhas," which means "awakened ones." The word is connected to the English verb "to bud." I once wrote a little parable:

Who the Buddhas Are

> All the beings of the universe are already realized. That is, with the exception of one or two beings. In those rare cases the cities, villages, meadows, and forests, with all their birds, flowers, animals, rivers, trees, and humans, that surround such a person, all collaborate to educate, serve, challenge, and instruct such a one, until that person also becomes a New Beginner Enlightened Being. Recently realized beings are enthusiastic to teach and train and start schools and practices. Being able to do this develops their confidence and insight up to the point that they are folly ready to join the seamless world of interdependent play. Such new enlightened beginners are called "Buddhas" and they like to say things like "I am enlightened together with the whole universe" and so forth. Boatina Stormy 1987

Good luck! One might say. The test of the pudding is in the eating. It narrows down to a look at the conduct that is entwined with food. At mealtime (seated on the floor in lines) the Zen monks chant:

Porridge is effective in ten ways
To aid the student of Zen
No limit to the good result
Consummating eternal happiness

and

Oh, all you demons and spirits
We now offer this food to you
May all of you everywhere
Share it with us together
We wash our bowls in this water

and

It has the flavor of ambrosial dew
We offer it to all demons and spirits
May all be filled and satisfied
Om makula sai svaha

And several other verses. These superstitious-sounding old ritual formulas are never mentioned in lectures, but they are at the heart of the teaching. Their import is older than Buddhism or any of the world religions. They are part of the first and last practice of the wild: Grace.

Everyone who ever lived took the lives of other animals, pulled plants, plucked fruit, and ate. Primary people have had their own ways of trying to understand the precept of nonharming. They knew that taking life required gratitude and care. There is no death that is not somebody's food, no life that is not somebody's death. Some would take this as a sign that the universe is fundamentally flawed. This leads to a disgust with self, with humanity, and with nature. Otherworldly philosophies end up doing more damage to the planet (and human psyches) than the pain and suffering that is in the existential conditions they seek to transcend.

The archaic religion is to kill god and eat him. Or her. The shimmering food-chain, the food-web, is the scary, beautiful condition of the biosphere. Subsistence people live without excuses. The blood is on your own hands as you divide the liver from the gallbladder. You have watched the color fade on the glimmer of the trout. A subsistence economy is a sacramental economy because it has faced up to one of the critical problems of life and death: the taking of life for food. Contemporary people do not need to hunt, many cannot even afford meat, and in the developed world the variety of foods available to us makes the avoidance of meat an easy choice. Forests in the tropics are cut to make pasture to raise beef for the American market. Our distance from the source of our food enables us to be superficially more comfortable, and distinctly more ignorant.

Eating is a sacrament. The grace we say clears our hearts and guides the children and welcomes the guest, all at the same time. We look at eggs, apples, and stew. They are evidence of plenitude, excess, a great reproductive exuberance. Millions of grains of grass-seed that will become rice or flour, millions of codfish fry that will never, and must never, grow to maturity. Innumerable little seeds are sacrifices to the food-chain. A parsnip in the ground is a marvel of living chemistry, making sugars and flavors from earth, air, water.

And if we do eat meat it is the life, the bounce, the swish, of a great alert being with keen ears and lovely eyes, with foursquare feet and a huge beating heart that we eat, let us not deceive ourselves.

We too will be offerings—we are all edible. And if we are not devoured quickly, we are big enough (like the old down trees) to provide a long slow meal to the smaller critters. Whale carcasses that sink several miles deep in the ocean feed organisms in the dark for fifteen years. (It seems to take about two thousand to exhaust the nutrients in a high civilization.)

At our house we say a Buddhist grace—

We venerate the Three Treasures
[teachers, the wild, and friends]
And are thankful for this meal
The work of many people
And the sharing of other forms of life.

Anyone can use a grace from their own tradition (and really give it meaning)—or make up their own. Saying some sort of grace is never inappropriate, and speeches and announcements can be tacked onto it. It is a plain, ordinary, old-

fashioned little thing to do that connects us with all our ancestors.

A monk asked Dong-shan: “Is there a practice for people to follow?” Dong-shan answered: “When you become a real person, there is such a practice.”

Sarvamangalam,

Good Luck to All.