"You Can’t Negotiate with a Beetle"

You can’t negotiate with a beetle. You are now dealing with natural law. And if you don’t understand natural law, you will soon.

Oren Lyons

Oren Lyons’s statement refers to 4 million acres of Canadian forest wiped out by beetles now thriving in warmer winter temperatures as a result of planetary heating. Lyons has a knack for putting environmental problems into terms that are hard to argue with. A member of the Onondaga Nation Council of Chiefs and professor of American studies, he emphasizes “natural law,” a principle that has guided the indigenous approach to ecological management for thousands of years. As Lyons once put it in an interview:

The thing that you have to understand about nature and natural law is, there’s no mercy…. There’s only law. And if you don’t understand that law and you don’t abide by that law, you will suffer the consequence. Whether you agree with it, understand it, comprehend it, it doesn’t make any difference. You’re going to suffer the consequence, and that’s right where we’re headed right now.

THE NEW ECOLOGICAL AGE

The planet we inhabit seems suddenly and violently out of balance. The consequences of humanity’s disregard for Nature’s laws find glaring reflection through the prism of ocean life. Four hundred “dead zones” now mar the world’s seas, collectively spanning tens of thousands of square miles. Off the coast of Oregon, a dead zone the size of Rhode Island resembles an underwater graveyard, with thousands of crab skeletons drifting in lifeless waters. In Moreton Bay, Australia, toxic fireweed can spread across the sea floor at a rate covering a football field every hour. When fishermen touch it, their skin breaks out into blistering welts, and their eyes burn and swell shut. Thousands of miles away on the Florida Gulf coast, a dreaded
red tide visits once a year and persists for months. Ocean breezes carry toxic wafts inland to waterfront communities, sending victims to the hospital with pneumonia, asthma, and bronchitis.²

Halfway between North America and Japan, the corpses of 200,000 dead albatross chicks speckle a rookery at Midway Atoll, their little gullets filled with plastic Legos, bottle caps, and Styrofoam balls that their parents plucked from the water and fed them. A garbage continent composed of plastic bottles, wrappers, and bags stretches twice the size of Texas in the Pacific Ocean.³

In New England, families that fished for generations have retired their boats because the oyster fishery has plummeted. Once providing a catch of millions of pounds of oysters a year, more than eight out of ten oyster reefs have vanished. Worldwide, nearly one-third of the sea fisheries have collapsed, and big fish populations have dropped 90 percent. Marine biologists project the complete loss of wild seafood just four decades from now: that would be the end of an entire food group that humans have relied on since time immemorial. Yet far out to sea, ocean fishing trawlers still scrape the bottom of the ocean in half-acre swaths. They haul in catches indiscriminately as if the marine life remained inexhaustible.⁴

All over the world, nitrogen and phosphorous compounds wash into the bays from septic tanks, farms, and sewers. Bulldozers chew up fragile wetlands along the coasts to create destination resorts and subdivisions. Every day, ocean water absorbs carbon dioxide emitted from industrial chimneys, coal-fired plants, and cars. Some ocean water has become so acidic from this pollution that the shells of sea creatures dissolve in it. Twenty percent of the coral reefs have disappeared, and the number could climb to 60 percent by 2050. Scientists warn of "potentially catastrophic consequences" for ocean life.⁵

Humans have toppled the oceans' chemical balance. Ancient forms of bacteria now thrive and proliferate, as if the seas have reverted to a primeval state. Los Angeles Times reporter Kenneth Weiss describes a "virulent pox" afflicting the world's oceans. In the words of one scientist, the seas now succumb to "the rise of slime," regressing to "a half-billion years ago when the oceans were ruled by jellyfish and bacteria."⁶ As Oren Lyons would point out, you cannot negotiate with slime.

No one ever guaranteed that a lifestyle of colossal waste and resource consumption could continue indefinitely without consequences to our own species. But mass consumerism lulls people into assuming that good collateral exists behind a soaring ecological debt on the planet. Society seems mesmerized by an image of resilient Nature that cannot unravel before our very eyes. Even if it did unravel, leaders assure us, technology will develop in the nick of time to save civilization.

As part of the problem, industrialization has estranged people from their own survival. Many citizens live so detached from food production, water collection, and shelter provision that they remain oblivious to the basic connection between
ecological health and human need. Neon indicators of environmental collapse attract little notice in mainstream society. Elizabeth Kolbert writes in Field Notes from a Catastrophe, “It may seem impossible to imagine that a technologically advanced society could choose, in essence, to destroy itself, but that is what we are now in the process of doing.”

Cascading calamities have prompted a body of “collapse scholarship.” These writers no longer concern themselves with isolated problems such as a polluted river or a threatened species. Instead, they focus on a big picture that shows society now exhausting life-sustaining natural resources at a pace that threatens the future of civilization. James Speth inventories accumulating evidence in his book, The Bridge at the Edge of the World. Submitting that society faces a future of “catastrophes, breakdowns, and collapses,” he asserts, “[W]e’re headed toward a ruined planet.” Jared Diamond carries a similar message in his book, Collapse. Observing no fewer than a dozen environmental time bombs with short fuses – crises relating to water, soil, toxics, overpopulation, deforestation, habitat destruction, overhunting, overfishing, introduction of nonnative species, climate change, energy shortages, and Earth’s photosynthetic capacity – he notes, “If we solved 11 of the problems, but not the 12th, we would still be in trouble, whichever was the problem that remained unsolved. We have to solve them all.” This generation of humanity has clearly traveled into a new ecological era. As Bill McKibben submits in his book, Eaarth, it is as if humans now inhabit a different planet – one far less hospitable to our own survival.8

Presses are running at full speed to disseminate new ideas and transformative models to restructure society in a way that will allow humans to survive in the years ahead. It looms as a massive task. As Paul Hawken says in the film The 11th Hour, “There isn’t one single thing that we make that doesn’t require a complete re-make.”9 One would think that environmental law would lead visionary reform. Instead, environmental lawyers and regulators still do things very much the same way they did forty years ago. This book aims to bring environmental law face to face with the new ecological age unquestionably bearing down on us. It presents a transformative framework – Nature’s Trust – to fundamentally redirect government’s environmental policy from its present course of legalizing colossal damage to a project of epic restoration.

THE LEGAL MEMBRANE

Throughout most of human history, societies have governed their relationship to the environment through a series of customs, codes, and rules. Even during Justinian times, for example, the Roman Empire issued legal edicts on the taking of fish, the ownership of eroded soil, and the cultivation of bees.10 No matter how simple or complex the rules may be, environmental law creates a legal membrane through
which individuals act in relation to Nature. The efficacy of this law should be of utmost concern to citizens: any government that fails to protect its natural resources consigns its citizens to misery — and often death.

In *Collapse*, Jared Diamond studies why notably flourishing societies throughout history collapsed precipitously. These societies, he notes, often exhibited a characteristic mismatch between the society's consumption and the resources available. Less obvious is why the governing structure of the society sometimes allowed consumption to reach disastrous proportions grossly exceeding Nature's limits. Diamond attributes this in part to a conflict of interest between the short-term interests of the decision-making elite and the long-term interests of the society as a whole. As he describes, when members of the ruling elite pursue goals that become “good for themselves but bad for the rest of the group,” they lead society on an unsustainable track, heading it toward collapse. Today, the decision-making elite includes thousands of environmental agencies in nations across the world. Collectively, they rule over Earth's natural resources. Like the collapsed societies Diamond inventories, these officials now make decisions that are good for themselves but bad for society and future generations. Behind a veil of environmental law, their decisions push the entire world toward collapse.

Unique in the law, environmental regulation remains accountable to a supreme set of mandates — the laws of Nature, or Natural Law, as Oren Lyons and many indigenous leaders call it. Environmental law's primary function seeks to bring society into compliance with these natural laws, which, in the end, determine whether citizens prosper or perish. As Professor Richard Lazarus writes, “[E]cological catastrophe and human tragedy can occur when human laws fictionalize or otherwise ignore the laws of nature.” If environmental law, no matter how seemingly complex or sophisticated, becomes too detached from Nature's own laws, it will become irrelevant. If the hundreds of thousands of bureaucrats and legislators dispersed across the world today make decisions aimed to promote their own short-term interests as in the ruined societies Diamond describes, our collective future rests in dangerous hands.

The United States boasts the most elaborate environmental laws in the world. They exist as a convoluted morass of statutes, regulations, court decisions, and other legal instruments. Basic environmental law principles arose early in the country's history, but they morphed into statutory form only in the 1970s. This era gave rise to the Clean Water Act, the Clean Air Act, the Endangered Species Act, the National Environmental Policy Act, the Toxic Substances Control Act, the National Forest Management Act, and a multitude of others. Each statute spawned a cottage industry of lawyers and environmental consultants. Although directed at different problems, nearly all environmental statutes share one thing in common: they rely on agencies to carry out their mandates. Nature, in
its entirety, has been partitioned among various bureaucracies — many thousands in all — spanning the federal, state, and local levels. Vast authority vests in these agencies to control or manage discrete parts of the environment. In the U.S., for example, state environmental agencies generally handle air and water pollution. Federal forests are the responsibility of the U.S. Forest Service. Endangered species fall to the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. State water agencies issue water rights. Land use matters go to local agencies. The U.S. Environmental Protection Agency (EPA) regulates toxics and pesticides. Wetlands regulation is within the jurisdiction of the U.S. Army Corps of Engineers. And so on. These jurisdictional webs have vastly different reaches and regulatory strands, but they all reflect one thing: agencies are exerting tremendous dominion over Nature.

With few exceptions, statutes authorize agencies to issue permits to damage Nature. Such permit provisions form a common denominator to environmental and natural resource statutes, and a vast portion of the agencies’ work today flows from them. Agencies regularly decide whether to permit harm to air, water, soils, forests, grasslands, wetlands, riparian areas, species, and other natural resources. The agencies enjoy tremendous discretion in making these decisions; in fact, agency discretion forms the crux of all modern environmental law. Such discretion rests on a presumption that agencies remain expert bodies that unfailingly exercise their judgment objectively, for the good of the public, and in accordance with protective statutory goals. That presumption now collides with reality.

Agency discretion drives the demise of Nature. For decades, environmental professionals working within this legal system have assumed it to be functional, and many other nations have modeled their environmental approach after the U.S. legal system. But the ancient membrane of law that supposedly functions as a system of community restraint now stretches tattered and pocked with holes. Our destruction of Nature threatens to create what scientists call a fundamentally “different planet.”

Two unavoidable questions loom large over environmental law. First, does this field of law work to keep society in compliance with Nature’s own laws? Second, can it be effective in confronting the ecological challenges now coming at us with horrifying speed? These questions are of crucial importance not only for the United States but also for other nations confronting ravenous pressure to industrialize (as well as all other nations that must endure the planetary damage wrought by overconsuming nations). If the answer to either question is no, legal scholars must set their sights on a transformative legal paradigm.

Many litigators, scholars, and decision makers will claim that the environmental statutes work. They point to isolated successes in every statutory context. Rivers do not catch fire any more. Gasoline does not contain lead. The pesticide DDT no longer poisons eagles. Industries cleaned up their toxic mess at Love Canal. Influenced
by these perceptions of success, when new problems come along, lawyers tend to
turn to the old way of doing things. For example, lawyers responded initially to global
warming by filing a petition to regulate carbon dioxide under the Clean Air Act.¹⁶ Yet,
well more than a decade after filing the petition, the federal government has still not
acted to comprehensively control greenhouse gas pollution—even though scientists
clearly warn of perilous planetary heating. Success, as we all know, remains relative.
Over just the last few decades, industry has jumped from a white belt to a black belt
in Earth-destroying capability, but the law has not changed. Despite entrenched
presumptions that environmental law remains effective, the proof lies in the health
of the ecosystems themselves. Society now violates Nature’s laws not only at the level
of species and individual ecosystems but also at the level of atmospheric function,
ocean health, and biodiversity—a truly global level.

ECOLOGICAL BANKRUPTCY

Today’s ecological losses reside in a different realm than the problems prompting
passage of the environmental statutes forty years ago. When the Endangered Species
Act was enacted, for example, overhunting and poaching were predominant threats
to wildlife, and extinctions remained quite rare. Today, pollution, habitat loss, and
climate change decimate wildlife. Imperiled species now show up ubiquitously, in
nearly every kind of habitat system. Where one species struggles to survive, others usu-
ally do too, for when an ecosystem starts to unravel, its full weave of species frays.⁶⁶

Historic problems of overharvest now stand utterly eclipsed by threats to the
web of life itself. Today’s major wildlife reports do not dwell so much on individual
species. Instead, they talk about entire classes of life on Earth threatened. The
International Union for Conservation of Nature (IUCN), which compiles data on
the world’s threatened species, estimates that more than a third (38 percent) of all
species face possible extinction. Interpreting this statistic cannot be a matter of see-
ing a glass a third empty or two-thirds full. Because ecology embodies connected-
ness, 38 percent becomes the pull-engine on a death train. Leading conservation
biologists now conclude that humanity has triggered the sixth mass extinction in
Earth’s history. As James Speth grimly reports, “The planet has not seen such a
spasm of extinction in sixty-five million years, since the dinosaurs disappeared.”⁷⁷

Some characterize the sheer scale of this destruction by pointing out that human-
ity would need two planets by 2030 to support its demand for goods and services.
Society now exhausts resources at a breakneck pace. In the tropics, chainsaws have
axed the rainforest at a rate of an acre every second, by some estimates. Half of
the world’s original forest has been obliterated (another 30 percent is degraded or frag-
mented). Half of the world’s wetlands lay destroyed, and a third of the mangroves
have disappeared.⁸
Despite its elaborate environmental laws, the United States has wiped out more than half (53 percent) of its wetlands and nearly all (90 percent) of its old-growth forests. At least 9,000 species face risk of extinction in the United States, according to the Council on Environmental Quality. Pollution fouls America, too; industry annually releases more than 4 billion pounds of toxic chemicals into waters, air, and soils. According to EPA, 95 percent of all Americans have an increased risk of lung cancer just from breathing toxins in outdoor air, and one in four Americans lives next to a toxic waste dump. Nearly half (44 percent) of all rivers and streams are unfit for fishing, recreation, and other public uses. Fish advisories for toxic contamination exist for about one out of every four rivers (24 percent). Mercury—a poison to humans—now shows up ubiquitously in fish. Even babies are born polluted, harboring a cocktail of toxins in their bloodstreams.

This colossal damage to Earth had its genesis in the Industrial Revolution, but the real acceleration occurred during the modern era of environmental law. In the last thirty years, Earth’s natural ecosystems have declined by 33 percent, and one-third of the planet’s natural resources has been consumed. Has environmental law worked? If the health of the planet stands as any indicator, the answer must be clearly no. The law can claim small successes, but overall, destruction from industrial activity has far outpaced the ability of environmental law to protect resources. As political scientist Richard Andrews observes, environmental law has “only selectively, modestly, and temporarily held back” the larger forces responsible for resource collapse. Rather than safeguarding ecology, today’s environmental law serves as the cane on which humanity leans as it walks the plank toward its own destruction.

THE ILLUSION OF ENVIRONMENTAL LAW

U.S. agencies have turned environmental law inside out. Whereas Congress passed environmental statutes with the overriding goal of protecting the environment, the environmental agencies now use the statutes to legalize destruction of the environment. Under the Clean Air Act alone, nearly 15,000 permits (pending or in effect) allow the poisoning of American air sheds with harmful pollution, including highly toxic compounds. In just the seven years between 2001 and 2007, industries released 31.7 billion pounds of toxins into the environment in U.S. territory. Other permits and regulatory loopholes allow harm to imperiled species, destruction of wetlands, leveling of forests, and gouging of landscapes. Granted, most permits carry mitigating conditions that lessen the damage that would otherwise occur, but the cumulative effect tallies inexorable, mounting losses. While undoubtedly some agencies remain loyal guardians of the public’s natural assets, the bureaucratic mindset of most agencies today aligns all too closely with the industries they regulate.
Diamond’s examination of collapsed societies shows that we should be wary of decision makers who make decisions to further their own short-term interests. The pursuit of self-interest by some agency heads surely rivals that of the ancient lords in Collapse. As Part I of this book shows, political appointees in agencies regularly hijack their administrative discretion to benefit their allied industries. Because political motives lie concealed behind a thick morass of complexity created by the agencies themselves, it remains exceedingly difficult to untangle corruption or misuse of office.22

To make matters worse, the judiciary has largely relinquished its role as an institutional check on environmental agencies, regularly invoking the administrative deference doctrine to give weight to agency decisions. The deference principle assumes that expert agencies act as unbiased decision makers, ever faithful to statutory goals. This approach insulates agency decisions from rigorous judicial examination of inappropriate political motivations that regularly influence the agencies. Through the deference doctrine, courts unwittingly create a judicial prop for an administrative facade that conceals political influence and, at times, outright corruption.23

For the most part, environmental law scholarship ignores these systemic problems. Most scholars confine their criticism to one statute’s failure or one program’s failure. The problem reaches much deeper and far beyond these isolated instances. Dysfunction permeates the entire structure of the administrative environmental state, both in the United States and in the many other nations that have replicated the U.S. environmental law system. Much like a manufacturer might put faulty and dangerous wiring in 100,000 separate products, the U.S. legal system has put out hundreds of thousands of regulations that no longer function as intended. Worse, they now operate in electrocution mode.

CLIMATE EMERGENCY AND THE BIG ADAPTATION

Even setting aside past failures, we should ask whether current environmental law can effectively confront the monumental challenges ahead. Planetary heating looms as a harbinger of death on a nearly unimaginable scale. In June 2007, a team of leading climate scientists warned that carbon dioxide and other greenhouse gas emissions have placed the Earth in “imminent peril” — literally on the verge of an irreversible tipping point that would impose catastrophic conditions on generations of humanity to come. Climate change from continued greenhouse gas pollution threatens to melt ice sheets over Greenland and at both poles, wipe out the coral reefs, turn the Amazon forest into savannah, and obliterate 40 percent to 70 percent of the world’s species. Floods, hurricanes, killer heat waves, fires, disease, crop losses, food shortages, and droughts would arrive with unimaginable magnitude and regularity. Rising sea levels that inundate coastal areas worldwide would trigger
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desperate mass human migrations. In the words of the National Aeronautics and Space Administration (NASA) scientist James Hansen, society's continued carbon pollution will "transform the planet."74

Climate crisis presents nearly unfathomable urgency because of what scientists call "tipping points" - climate tripwires, so to speak. These thresholds, caused by human carbon pollution, trigger dangerous feedbacks capable of unraveling the planet's climate system. Once triggered, these viscous cycles continue despite any subsequent carbon reductions achieved by humanity. Such tipping points loom near. Some may be underway. Some may be intensifying. Vast areas of melting permafrost, for example, now release huge amounts of carbon dioxide and methane into the atmosphere. Melting polar ice caps intensify heating, because less ice remains to reflect heat away from Earth (what is known as the albedo effect). And the natural "sinks," such as oceans and forests, that historically absorbed society's carbon pollution have reached their limits. The oceans have turned acidic, and large swaths of forests (stressed from heat) are dying and then burning, releasing their stored carbon. In 2009, these and other alarming feedbacks caused scientists to warn that greenhouse gas (GHG) emissions put Earth "perilously close to dramatic climate change that could run out of our control, with great dangers for humans and other creatures."75

To put it starkly, we face a planetary emergency in which only a narrow window of time remains to act before tipping points foreclose all feasible options. Leading climate scientists believe the safety zone of carbon dioxide in the atmosphere lies below the level of 350 parts per million. Present levels have reached 400 parts per million, an amount not seen on Earth for at least 3 million years. The United Nations projects that humanity's aimless business as usual could heat the planet as much as 11 degrees Fahrenheit by the end of the century. To put that in perspective, all of the floods, fires, heat waves, melting, and weather disasters experienced thus far correlate with a mere 1.4-degree Fahrenheit rise (over preindustrial levels). Worse, even if all emissions ended tomorrow, the persisting carbon already in the atmosphere from 150 years of industrialization will still drive the planet's temperature to 3.6 degrees Fahrenheit over preindustrial levels by 2199.76

Against this horrific reality, climate crisis presents two monumental challenges, tagged in climate circles by the (rather uninspiring) terms mitigation and adaptation. Mitigation calls for slashing carbon emissions enough to prevent runaway heating. Dr. James Hansen and other leading scientists project that society must cut global carbon emissions on the order of 6 percent a year, beginning in 2013, to return the planet to a safety zone. This becomes a colossal undertaking, because fossil fuel powers nearly every aspect of modern industrial society. Adaptation means that society must figure out how to survive conditions it has never known. Thomas Friedman captures the twin tasks when he says: "Avoid the unmanageable and manage the unavoidable."77
The climate imperative necessitates protecting the remaining natural resources for two basic reasons. First, any effort to mitigate and thwart the tipping point must entail a drawdown of carbon pollution from the atmosphere. Extracting existing atmospheric CO₂ requires massive reforestation and soil sequestration to absorb carbon. Second, ecosystem protection (and restoration) will prove crucial for adapting to the climate heating that is already, unstoppably, underway. Many ecological systems will fail, and as they do, natural resources will become even more scarce. Worldwide, nations simply will not have all of the water, the species, the productive soils, and the forests inherited from past generations (around which they built their societies). Major rivers of the world already show significant loss of water due to climate change. Environmental law of the past geared its loose permissions toward conditions of the Industrial Age. But in a world under ecological siege, all remaining natural assets carry a premium for human survival and welfare. These stark understandings must connect law with the reality of our time.

As Speth concludes: “[W]e now approach the fork ahead.... Beyond the fork, down either path, is the end of the world as we have known it. One path beyond the fork continues us on our current trajectory... the abyss.... But there is the other path, and it leads to a bridge across the abyss.” Rather than launching a massive effort to build society’s survival bridge across the abyss, government agencies persist in legalizing damage as if Nature had supernatural capacity to regenerate – indeed, as if the end were not already in sight. Agency reform stands urgent as never before. Yet many perceive deep change as remaining beyond political and practical possibility.

REALISM AND THE INEVITABILITY OF TRANSFORMATIONAL CHANGE

Alex Steffen, author of World Changing, says: “We find ourselves facing two futures, one unthinkable and the other currently unimaginable.” The severity and pervasiveness of administrative dysfunction means there can be no simple fix. All solutions will entail fresh dilemmas, complexities, and tradeoffs. But these cannot distract from imagining and implementing a different paradigm. Speth rightly argues that we need a “fresh conceptualization ... a new way of thinking.” Many proposals still tinker around the edges of the same business-as-usual behavior that now drives the planet to catastrophe. As Steffen notes, “Faced with the need to reinvent the material basis of our civilization, we argue paper or plastic.” He explains, “The magnitude of the crises we face, [and] the speed with which they are unfolding ... mean that the solutions we need to embrace are not going to be the same sort of solutions we're used to thinking of now.”

Steffen and others offer new operating principles of our society – concepts such as zero emissions, zero waste, living buildings, and green infrastructure. But an
antiquated system of environmental regulation undermines these civilization-saving ideas. We cannot, on one hand, dare to imagine businesses eliminating pollution and waste, yet on the other hand give them permits to freely pollute. For the most part, environmental law lacks ideas truly calibrated to the magnitude of the problem and the pace of change. It offers only modest proposals for reform — a new regulation here, a new statute there. At this late date, tweaking the law becomes a fool's errand, having no more hope than throwing out a rescue rope that is too short. Instead, legal reform must reach beneath the individual statutes and regulations to address the level of dysfunction that propels this system of legalized damage.

A major source of administrative dysfunction arises from the vast discretion agencies enjoy — and the way they abuse it to serve private, corporate, and bureaucratic interests. As long as the decision-making frame presumes political discretion to allow damage, it matters little what new laws emerge, for they will develop the same bureaucratic sinkholes that consumed the 1970s laws. Only a transformative approach can address sources of legal decay. Moreover, a fundamental frame change in the field as a whole stands as the only practical response to an environmental bureaucracy that is now enormous. The legal machine churns out colossal damage on a daily basis by issuing (and reissuing) pollution permits at all jurisdictional levels. (In the course of just two months in 2009, for example, state agencies across 36 states reported 2,652 air and water pollution permits due for issuance or renewal.) Additional, untold damage finds license through regulatory mechanisms such as wildlife “take” permits, wetlands permits, coastal zone permits, land use permits, mining, forestry, and grazing permits, water appropriation permits, and more. Efforts to push back this deluge cannot proceed on a permit-by-permit basis or even a program-by-program basis. Legal battles consume money, time, citizen input, and enormous human energy — inputs that dissipate quickly in the modern world. While an incremental approach might make sense if society had another three decades to accomplish it, climate crisis has annulled the luxury of time.

Unfortunately, however, even the most public-oriented staffers working within agencies tend to resist transformative change. They operate within highly restricted jurisdictional realms and work in isolated regulatory silos. The sheer complexity of environmental law draws them into consuming detail, burrowing them ever deeper into a malfunctioning system even as the need for change becomes all the more obvious to outside observers. Failing to see the big picture of ecological collapse, agency officials tend to approach problems all too narrowly.

Even those agency staffers who do recognize the ecological crisis often find themselves trapped by an entrenched institutional outlook — one that assumes that the political reality will never support deep change. But as Speth and others submit, the industrial paradigms producing that political reality are fast expiring. The status quo, if continued, will provoke ecological collapse, which in turn will dismantle the
society’s legal systems and their supporting paradigms. Diamond surmises that a resolution to society’s problems will appear, one way or another, within decades: “The only question is whether [the problems] will become resolved in pleasant ways of our own choice, or in unpleasant ways not of our choice, such as warfare, genocide, starvation, disease epidemics, and collapses of societies.”

In sum, the Earth defense effort requires an epochal project of rebuilding natural wealth. Instead of incremental reform, the circumstances call out for a full paradigm shift that infuses all government decision making with restoration duty. Citizens worldwide must tap a wellspring of legal obligation to compel their governments to tackle this challenge.

NATURE’S TRUST

This book develops a framework, Nature’s Trust, to characterize government’s ecological obligation in the modern ecological age. Nature’s Trust draws forth an ancient and enduring legal principle known as the public trust doctrine. With roots extending back to early Roman law, the doctrine rests on a civic and judicial understanding that some natural resources remain so vital to public welfare and human survival that they should not fall exclusively to private property ownership and control. Under the public trust doctrine, natural resources such as waters, wildlife, and presumably air, remain common property belonging to the people as a whole. Such assets take the form of a perpetual trust for future generations. The public’s lasting ownership interest in this trust vests in both present and future generations as legal beneficiaries.

Public trust law demands that government act as a trustee in controlling and managing crucial natural assets. Held to strict fiduciary obligations, government must promote the interests of the citizen beneficiaries and ensure the sustained resource abundance necessary for society’s endurance. The U.S. Supreme Court declared in *Geer v. Connecticut*: “[I]t is the duty of the legislature to enact such laws as will best preserve the subject of the trust, and secure its beneficial use in the future to the people of the state.” This duty arises as a limitation on government, an expectation that still smoulders in the popular sovereignty held by the people.

As a foundational property law principle, the trust doctrine imparts the original legal mechanism to ensure that government safeguards natural resources necessary for public welfare and survival. Long predating any statutory law, the reasoning of the public trust puts it on par with the highest liberties of citizens living in a free society. This public property right ranks so fundamental to citizens that some scholars describe it as a natural right or human right. As Professor Joseph Sax suggested more than four decades ago in a landmark article, the public trust responsibility underpins democracy itself, demarcating a society of “citizens rather than of serfs.”
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The American lodestar public trust opinion declaring the citizens' fundamental right to natural resources is *Illinois Central Railroad Co. v. Illinois* (Illinois Central). Announcing that the shoreline of Lake Michigan was held in public trust by the state of Michigan and could not be transferred to a private railroad corporation, the Supreme Court stated:

> [T]he decisions are numerous which declare that such property is held by the state, by virtue of its sovereignty, in trust for the public. The ownership of the navigable waters of the harbor, and of the lands under them, is a subject of public concern to the whole people of the state. The trust with which they are held, therefore, is governmental, and cannot be alienated.³⁶

The essence of the doctrine requires trust management strictly for public benefit rather than for private exploit or political advantage. Simply stated, government trustees may not allocate rights to destroy what the people rightly own for themselves and for their posterity. Understood in this way, the trust imposes a fundamental constraint on governmental power. The Geer Court declared:

> [T]he power or control lodged in the State, resulting from this common ownership, is to be exercised, like all other powers of government, as a trust for the benefit of the people, and not as a prerogative for the advantage of the government as distinct from the people, or for the benefit of private individuals as distinguished from the public good.³⁷

Although the public trust doctrine lies embedded in scores of U.S. judicial decisions decided over the past century, it has been all but lost in the administrative jungle that now chokes environmental law. Many modern-day bureaucrats and politicians no longer see themselves as trustees of public property and resources. They view their roles as those of political decision makers, vested with statutory discretion to allow damage to natural resources through the permit system. The present statutory system fails to impose a corresponding duty adequate to bridle this breathtaking power.

Revived in modern bureaucracy, the trust would introduce an old-but-new limitation on government acting through statutory law. The trust injects fiduciary duty into government action affecting the environment. Strict and enforceable standards of performance stay necessary to secure the implicit confidence reposed by citizens in the trustee, who exercises power over vital assets. Trustees, bound by exacting fiduciary obligations to protect the assets of the trust, must manage them prudently and restore damaged assets. The trustee must act in good faith and out of absolute loyalty to the citizen beneficiaries.

From an established public trust foundation, the Nature's Trust paradigm proposes an organizing framework responsive to the new ecological era. But to do so,
it must push beyond current limitations associated with the public trust doctrine. While Sax's pioneering article suggested the trust as a cohesive paradigm for managing natural resources, much scholarship since has characterized the doctrine in an overly constrained manner. Law review articles tend to focus too much on a limited number of specific cases rather than on the bedrock fundamentals and the purposes animating the doctrine, both of which suggest broad potential to address modern crises. Some scholars express the public trust as a judicial tool, but they ignore the doctrine's fundamental applicability to the legislative and administrative branches of government. Many characterize the public trust as limited to water and wildlife, whereas the original rationale for the trust clearly extends to all natural resources needed by society. Some scholars assume the doctrine to be exclusively applicable to states, whereas its taproot lies in sovereign understandings that remain equally germane to the federal and local governments—both of which play key roles in today's environmental management. Much of the scholarship focuses on the public aspects of natural resource ownership without fully reconciling the doctrine with private property ownership—or explaining how ownership rules must adjust to a new era of natural scarcity and uncertainty. Few scholars have discussed in any detail how the trust might impart global obligations for planetary resources such as the oceans and atmosphere. And finally, the existing scholarship confines its characterization of the public trust to the legal sphere, whereas the trust also inspires as a political concept, an ethical mooring, a diplomatic framework, and an economic principle. This book builds on the public trust foundation to create a full paradigm shift in environmental law. Amid an ecological crisis, Nature's Trust principles instruct government to protect and restore the Earth endowment.

Part I of this book begins with a regulatory autopsy of environmental law, examining its many failure points. Chapter 1 provides a context for assessing legal dysfunction by recounting how President George W. Bush used high administrative offices to thwart carbon dioxide regulation under the Clean Air Act. Punctuating his administration's persistent regulatory obstruction to benefit the fossil fuel industry were clear warnings from the scientific community that government's failure to control carbon pollution would bring calamity to Earth's citizens. If any story shows the perils of agency politicization, this one does. Chapter 2 explores how administrative law now skews the balance of power among the three branches of government. Chapter 3 reveals the "politics of discretion," identifying portals through which industry influence gains entry to the administrative state. Chapter 4 lifts the veil on the political and industry maneuvering that persists behind a regulatory facade. Chapter 5 exposes a despotic administrative state resulting from a weakened judicial branch and a marginalized public.

Part II presents the Nature's Trust paradigm, which characterizes government's environmental duty as obligatory, inalienable, and fundamental to sovereignty.
itself. Chapter 6 describes an encompassing fiduciary limitation on the powers of
government applicable on the federal, state, and local levels. Chapter 7 draws on
the essential purposes of the trust to suggest that all natural assets, including air,
atmosphere, oceans, rivers, wetlands, aquifers, forests, wildlife, and soils, comprise
an "ecological res" that government must protect. Chapter 8 presents substantive
standards of trust protection and restoration, and Chapter 9 discusses procedural
duties incumbent on agency officials acting as trustees. Together, these two chap-
ters characterize the trust obligation as an organic duty existing within the pro-
cedural edifice of statutory law, available to redirect agencies toward the task of
rebuilding bankrupted natural assets. Chapter 10 outlines a property framework
that organizes environmental obligations on a global scale. It positions multiple
sovereigns as co-tenants of shared resources with mutual property-based obligations
to prevent waste of common assets. Chapter 11 discusses how the judicial branch
can enforce the people's trust through common law remedies using modern hybrid
judicial/administrative tools.

Part III positions Nature's Trust within a broader social realm and weaves the trust
approach with other transformative proposals that can guide society in a sustain-
able direction. Chapter 12 explores the moral and spiritual dimensions of the trust
and suggests a powerful synergy between Nature's Trust and worldwide conservation
faith movements. Chapter 13 describes how Nature's Trust principles reinforce con-
temporary initiatives toward natural capitalism. Chapter 14 explains the interface
between private property rights and public property rights. It identifies the trust as
an encumbrance on private title that has never been extinguished, an antecedent
servitude that awakens even from long periods of dormancy to preserve natural infra-
structure. Chapter 15 concludes the book by suggesting Nature's Trust as a paradigm
capable of transcending cultures and national borders to catalyze citizen environ-
mental democracy worldwide.

A POPULIST MANIFESTO

As this book will show, the legal dysfunction driving environmental law portends
danger for all citizens. Far from protecting Nature, agencies now use their authority
under environmental law to hospice a dying planet. Citizens of the world con-
front a monumental challenge: they must redirect the bureaucratic energy of their
governments toward the epic task of rebuilding the assets in Nature's Trust. But
transforming agencies requires a new way of thinking, a fresh characterization of
normative values, and a robust set of legal footholds by which citizens can hold their
government officials accountable. While no legal approach offers a panacea, the
trust infuses existing environmental law and bureaucracy with a protective fiduciary
purpose that can rise to modern ecological challenges. When taken to the global
level, the trust becomes a diplomatic framework from which international obligations emerge to protect the Earth endowment for all generations.

The sovereign trust obligation offers a catalyzing principle to citizens worldwide in their common struggle to hold government accountable for protecting life-systems. Nature’s Trust and the primordial rights inculcating it create a populist manifesto that surfaces at epic times through the generations of humanity. These principles stand no less revolutionary for our time and our crises than the forcing of the Magna Carta on the English monarchy in 1215 or Mahatma Gandhi’s great Salt March to the sea in 1930. Resonating deeply and resolutely within the ancestral memory of humanity, trust principles must now revive to stir a global assertion of citizenship in defense of humanity and all future generations.
Environmental Failure: A Case for a New Green Politics

The U.S. environmental movement is failing – by any measure, the state of the earth has never been more dire. What’s needed, a leading environmentalist writes, is a new, inclusive green politics that challenges basic assumptions about consumerism and unlimited growth.

BY JAMES GUSTAVE SPETH

A specter is haunting American environmentalism – the specter of failure.

All of us who have been part of the environmental movement in the United States must now face up to a deeply troubling paradox: Our environmental organizations have grown in strength and sophistication, but the environment has continued to go downhill, to the point that the prospect of a ruined planet is now very real. How could this have happened?

Before addressing this question and what can be done to correct it, two points must be made. First, one shudders to think what the world would look like today without the efforts of environmental groups and their hard-won victories in recent decades.

However serious our environmental challenges, they would be much more so had not these people taken a stand in countless ways. And second, despite their limitations, the approaches of modern-day environmentalism remain essential: Right now, they are the tools readily at hand with which to address many pressing problems, including global warming and climate disruption. Despite the critique of American environmentalism that follows, these points remain valid.

Lost Ground

The need for appraisal would not be so urgent if environmental conditions were not so dire. The mounting threats point to an emerging environmental tragedy of unprecedented proportions.

Half the world’s tropical and temperate forests are now gone. The rate of deforestation in the tropics continues at about an acre a second, and has for decades. Half the planet’s wetlands are gone. An estimated 90 percent of the large predator fish are gone, and 75 percent of marine fisheries are now overfished or fished to capacity. Almost half of the corals are gone or are seriously threatened. Species are disappearing at rates about 1,000 times faster than normal. The planet has not seen such a spasm of extinction in 65 million years, since the dinosaurs disappeared. Desertification claims a Nebraska-sized area of productive capacity each year globally. Persistent toxic chemicals can now be found by the dozens in essentially each and every one of us.
The earth’s stratospheric ozone layer was severely depleted before its loss was discovered. Human activities have pushed atmospheric carbon dioxide up by more than a third and have started in earnest the most dangerous change of all — planetary warming and climate disruption. Everywhere, earth’s ice fields are melting. Industrial processes are fixing nitrogen, making it biologically active, at a rate equal to nature’s; one result is the development of hundreds of documented dead zones in the oceans due to overfertilization. Freshwater withdrawals are now over half of accessible runoff, and water shortages are multiplying here and abroad.

The United States, of course, is deeply complicit in these global trends, including our responsibility for about 30 percent of the carbon dioxide added thus far to the atmosphere. But even within the United States itself, four decades of environmental effort have not stemmed the tide of environmental decline. The country is losing 6,000 acres of open space every day, and 100,000 acres of wetlands every year. About a third of U.S. plant and animal species are threatened with extinction. Half of U.S. lakes and a third of its rivers still fail to meet the standards that by law should have been met by 1983. And we have done little to curb our wasteful energy habits or our huge population growth.

Here is one measure of the problem: All we have to do to destroy the planet’s climate and biota and leave a ruined world to our children and grandchildren is to keep doing exactly what we are doing today, with no growth in human population or the world economy. Just continue to generate greenhouse gases at current rates, just continue to impoverish ecosystems and release toxic chemicals at current rates, and the world in the latter part of this century won’t be fit to live in. But human activities are not holding at current levels — they are accelerating, dramatically.

The size of the world economy has more than quadrupled since 1960 and is projected to quadruple again by mid-century. It took all of human history to grow the $7 trillion world economy of 1950. We now grow by that amount in a decade.

The escalating processes of climate disruption, biotic impoverishment, and toxification, which continue despite decades of warnings and earnest effort, constitute a severe indictment of the system of political economy in which we live and work. The pillars of today’s capitalism, as they are now constituted, work together to produce an economic and political reality that is highly destructive environmentally. An unquestioning society-wide commitment to economic growth at any cost; powerful corporate interests whose overriding objective is to grow by generating profit (including profit from avoiding the environmental costs their companies create, amassing deep subsidies and benefits from government, and continued deployment of technologies originally designed with little or no regard for the environment); markets that systematically fail to recognize environmental costs unless corrected by government; government that is subservient to corporate interests and the growth imperative; rampant consumerism spurred by sophisticated advertising and marketing; economic activity now so large in scale that its impacts alter the fundamental biophysical operations of the planet — all combine to deliver an ever-growing world economy that is undermining the ability of the earth to sustain life.
Are Environmentalists To Blame?

In assigning responsibility for environmental failure, there are many places to lay blame: the rise of the modern, anti-government right in American politics; a negligent media; the deadening complexity of today's environmental issues and programs, to mention the most notable. But a number of observers have placed much of the blame for failure on the leading environmental organizations themselves.

For example, Mark Dowie in his 1995 book Losing Ground notes that the national environmental organizations crafted an agenda and pursued a strategy based on the civil authority and good faith of the federal government. "Therein," he believes, "lies the inherent weakness and vulnerability of the environmental movement. Civil authority and good faith regarding the environment have proven to be chimeras in Washington." Dowie argues that the national environmental groups also "misread and underestimate[d] the fury of their antagonists."

The mainstream environmental organizations were challenged again in 2004 in the now-famous The Death of Environmentalism. In it, Michael Shellenberger and Ted Nordhaus write that America's mainstream environmentalists are not "articulating a vision of the future commensurate with the magnitude of the crisis. Instead they are promoting technical policy fixes like pollution controls and higher vehicle mileage standards — proposals that provide neither the popular inspiration nor the political alliances the community needs to deal with the problem." Shellenberger and Nordhaus believe environmentalists don't recognize that they are in a culture war — a war over core values and a vision for the future.

These criticisms and others stem from the fundamental decision of today's environmentalism to work within the system. This core decision grew out of the successes of the environmental community in the 1970s, which seemed to confirm the correctness of that approach. Our failure to execute a dramatic mid-course correction when circumstances changed can be seen in hindsight as a major blunder.

Here is what I mean by working within the system. When today's environmentalism recognizes a problem, it believes it can solve that problem by calling public attention to it, framing policy and program responses for government and industry, lobbying for those actions, and litigating for their enforcement. It believes in the efficacy of environmental advocacy and government action. It believes that good-faith compliance with the law will be the norm, and that corporations can be made to behave and will increasingly weave environmental objectives into their business strategies.

Today's environmentalism tends to be pragmatic and incrementalist — its actions are aimed at solving problems and often doing so one at a time. It is more comfortable proposing innovative policy solutions than framing inspirational messages. These characteristics are closely allied to a tendency to deal with effects rather than underlying causes. Most of our major environmental laws and treaties, for example, address the resulting environmental ills much more than their
causes. In the end, environmentalism accepts compromises as part of the process. It takes what it can get.

Today's environmentalism also believes that problems can be solved at acceptable economic costs — and often with net economic benefit — without significant lifestyle changes or threats to economic growth. It will not hesitate to strike out at an environmentally damaging facility or development, but it sees itself, on balance, as a positive economic force.

Environmentalists see solutions coming largely from within the environmental sector. They may worry about the flaws in and corruption of our politics, for example, but that is not their professional concern. That's what Common Cause or other groups do. Similarly, environmentalists know that the prices for many things need to be higher, and they are aware that environmentally honest prices would create a huge burden on the half of American families that just get by. But universal health care and other government action needed to address America's gaping economic injustices are not seen as part of the environmental agenda.

Today's environmentalism is also not focused strongly on political activity or organizing a grassroots movement. Electoral politics and mobilizing a green political movement have played second fiddle to lobbying, litigating, and working with government agencies and corporations.

A central precept, in short, is that the system can be made to work for the environment. In this frame of action, scant attention is paid to the corporate dominance of economic and political life, to transcending our growth fetish, to promoting major lifestyle changes and challenging the materialistic values that dominate our society, to addressing the constraints on environmental action stemming from America's vast social insecurity and hobbled democracy, to framing a new American story, or to building a new environmental politics.

Not everything, of course, fits within these patterns. There have been exceptions from the start, and recent trends reflect a broadening in approaches. Greenpeace has certainly worked outside the system, the League of Conservation Voters and the Sierra Club have had a sustained political presence, groups like the Natural Resources Defense Council and the Environmental Defense Fund have developed effective networks of activists around the country, the World Resources Institute has augmented its policy work with on-the-ground sustainable development projects, and environmental justice concerns and the emerging climate crisis have spurred the proliferation of grassroots efforts, student organizing, and community and state initiatives.

But organizations that were built to litigate and lobby for environmental causes or to do sophisticated policy studies are not necessarily the best ones to mobilize a grassroots movement or build a force for electoral politics or motivate the public with social marketing campaigns. These things need to be done, and to get them done it may be necessary to launch new organizations and initiatives with special strengths in these areas.

The methods and style of today's environmentalism are not wrongheaded, just far, far too
restricted as an overall approach. The problem has been the absence of a huge, complementary investment of time, energy, and money in other, deeper approaches to change. And here, the leading environmental organizations must be faulted for not doing nearly enough to ensure these investments were made.

America has run a 40-year experiment on whether this mainstream environmentalism can succeed, and the results are now in. The full burden of managing accumulating environmental threats has fallen to the environmental community, both those in government and outside. But that burden is too great. The system of modern capitalism as it operates today will continue to grow in size and complexity and will generate ever-larger environmental consequences, outstripping efforts to cope with them. Indeed, the system will seek to undermine those efforts and constrain them within narrow limits. Working only within the system will, in the end, not succeed — what is needed is transformative change in the system itself.

A New Environmental Politics

Environmental protection requires a new politics.

This new politics must, first of all, ensure that environmental concern and advocacy extend to the full range of relevant issues. The environmental agenda should expand to embrace a profound challenge to consumerism and commercialism and the lifestyles they offer, a healthy skepticism of growthmania and a redefinition of what society should be striving to grow, a challenge to corporate dominance and a redefinition of the corporation and its goals, a commitment to deep change in both the functioning and the reach of the market, and a powerful assault on the anthropocentric and contempocentric values that currently dominate.

Environmentalists must also join with social progressives in addressing the crisis of inequality now unraveling America's social fabric and undermining its democracy. It is a crisis of soaring executive pay, huge incomes, and increasingly concentrated wealth for a small minority, occurring simultaneously with poverty near a 30-year high, stagnant wages despite rising productivity, declining social mobility and opportunity, record levels of people without health insurance, failing schools, increased job insecurity, swelling jails, shrinking safety nets, and the longest work hours among the rich countries. In an America with such vast social insecurity, economic arguments, even misleading ones, will routinely trump environmental goals.

Similarly, environmentalists must join with those seeking to reform politics and strengthen democracy. What we are seeing in the United States is the emergence of a vicious circle: Income disparities shift political access and influence to wealthy constituencies and large businesses, which further imperils the potential of the democratic process to act to correct the growing income disparities. Corporations have been the principal economic actors for a long time; now they are the principal political actors as well. Neither environment nor society fares well under corporatocracy. Environmentalists need to embrace public financing of elections, regulation of lobbying, nonpartisan Congressional redistricting, and other political reform measures as core
to their agenda. Today's politics will never deliver environmental sustainability.

The current financial crisis and, at this writing, the response to it, reveal a system of political economy that is profoundly committed to profits and growth and profoundly indifferent to people and society. This system is at least as indifferent to its impacts on nature. Left uncorrected, it is inherently ruthless and rapacious, and it is up to citizens, acting mainly through government, to inject values of fairness and sustainability into the system. But this effort commonly fails because progressive politics are too enfeebled and Washington is increasingly in the hands of powerful corporate interests and concentrations of great wealth. The best hope for real change in America is a fusion of those concerned about environment, social justice, and strong democracy into one powerful progressive force.

The new environmentalism must work with this progressive coalition to build a mighty force in electoral politics. This will require major efforts at grassroots organizing; strengthening groups working at the state and community levels; and developing motivational messages and appeals — indeed, writing a new American story, as Bill Moyers has urged. Our environmental discourse has thus far been dominated by lawyers, scientists; and economists. Now, we need to hear a lot more from the poets, preachers, philosophers, and psychologists.

Above all, the new environmental politics must be broadly inclusive, reaching out to embrace union members and working families, minorities and people of color, religious organizations, the women's movement, and other communities of complementary interest and shared fate. It is unfortunate but true that stronger alliances are still needed to overcome the "silos effect" that separates the environmental community from those working on domestic political reforms, a progressive social agenda, human rights, international peace, consumer issues, world health and population concerns, and world poverty and underdevelopment.

The final watchword of the new environmental politics must be, "Build the movement." We have had movements against slavery and many have participated in movements for civil rights and against apartheid and the Vietnam War. Environmentalists are often said to be part of "the environmental movement." We need a real one — networked together, protesting, demanding action and accountability from governments and corporations, and taking steps as consumers and communities to realize sustainability and social justice in everyday life.

Can one see the beginnings of a new social movement in America? Perhaps I am letting my hopes get the better of me, but I think we can. Its green side is visible, I think, in the surge of campus organizing and student mobilization occurring today, much of it coordinated by the student-led Energy Action Coalition and by Power Vote.
It's visible also in the increasing activism of religious organizations, including many evangelical groups under the banner of Creation Care, and in the rapid proliferation of community-based environmental initiatives. It's there in the joining together of organized labor, environmental groups, and progressive businesses in the Apollo Alliance and there in the Sierra Club's collaboration with the United Steelworkers, the largest industrial union in the United States. It's
visible too in the outpouring of effort to build on Al Gore's *An Inconvenient Truth*, and in the grassroots organizing of 3Sky and others around climate change. It is visible in the green consumer movement and in the consumer support for the efforts of the Rainforest Action Network to green the policies of the major U.S. banks. It's there in the increasing number of teach-ins, demonstrations, marches, and protests, including the 1,400 events across the United States in 2007 inspired by Bill McKibben's "Step It Up!" campaign to stop global warming. It is there in the constituency-building work of minority environmental leaders and in the efforts of groups like Green for All to link social and environmental goals. It's just beginning, but it's there, and it will grow.

The welcome news is that the environmental community writ large is moving in some of these directions. Local and state environmental groups have grown in strength and number. There is more political engagement through the League of Conservation Voters and a few other groups, and more work to reach out to voters with overtly political messages. The major national organizations have strengthened their links to local and state groups and established activist networks to support their lobbying activities. Still, there is a long, long way to go to build a new and vital environmental politics in America.

American politics today is failing not only the environment but also the American people and the world. As Richard Falk reminds us, only an unremitting struggle will drive the changes that can sustain people and nature. If there is a model within American memory for what must be done, it is the civil rights revolution of the 1960s. It had grievances, it knew what was causing them, and it also knew that the existing order had no legitimacy and that, acting together, people could redress those grievances. It was confrontational and disobedient, but it was nonviolent. It had a dream. And it had Martin Luther King Jr.

It is amazing what can be accomplished if citizens are ready to march, in the footsteps of Dr. King. It is again time to give the world a sense of hope.

**ABOUT THE AUTHOR**

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The Oberlin Project

by David W. Orr

Oberlin, Ohio—a city of approximately 10,000—is located fourteen miles from Lake Erie, thirty-five miles from Cleveland, and—as a sober crow would fly it—84 eighty-four miles from Detroit. Situated on the till left when the last glaciers retreated 12,000 years ago, Oberlin is in the geographic center of the rusty industrial heart of America. The town was founded in 1832 by do-gooders who drove out the natives, bears, and wolves, and tried to improve the "tougher wildlife"—the hard drinking frontiersmen who preferred the backwoods to the comforts of civilization.

The city grew up around the college which was named after an Alsatian pastor, John Frederic Oberlin, who was famous for saving souls and improving the local infrastructure of roads, bridges, schools, and hospitals. Early in its history, Oberlin College accepted African-Americans and women as full students and became a busy stopover on the Underground Railroad. Oberlin is described as the "town that started the Civil War" by rescuing runaway slave John Price from Kentucky bounty-hunters in 1858. Even since, Oberlinians have prided themselves on being a step ahead, marching to the rhythm of a more progressive drummer.

The city is formed around a 13 acre square, named for the Tappan brothers—New York City businessmen and abolitionists who supported the college in its early years. Oberlin once had six downtown grocery stores, two drug stores, an urban trolley system, and rail connections to anywhere in the U.S. As a student here in the 1890s, Charles Martin Hall discovered how to separate aluminum from bauxite and started the Alcoa Company.

The downtown retains a quaint 19th century charm, but merchants selling anything other than beer, pizza, or coffee struggle to make a go of it in the face of competition from the likes of Walmart. While Oberlin College and its Conservatory of Music anchor the economy, and although the town also has the largest air traffic control center outside a major airport in the U.S. and a scattering of other businesses, the total does not add up to a robust economy. North of Oberlin, two rust-belt cities have been drained by neglect and disinvestment characteristic of American urban policy after World War II. (If a ragtag bunch of foreign terrorists had done one thousandth as much, our patriotic vengeance would have known no limits. Alas, we did it to ourselves, and so we applauded the footloose brigands who left ruined towns and shattered communities.
from Flint and Detroit to Youngstown and beyond). Driving South from Oberlin down State highway 58, it’s mostly farmland and scattered woods.

Looking ahead a few decades, Oberlin and every other place on Earth will face the consequences of rapid climate change. If business as usual continues unimpeded, the planet will be ~2°C hotter by mid-century. Recent evidence suggests possible temperature increases of 4–6°C by the year 2100 or even sooner. Somewhere along that trajectory, we will lose control and many things will come undone, starting with water and food shortages, but eventually—perhaps sooner than later—entire economies and political systems. Nearly everything on Earth behaves or works differently at higher temperatures: ecologies collapse, forests burn, metals expand, concrete runways buckle, and rivers dry up, and people curse and kill more often. No place will be spared. Oberlin will experience its share of hotter and less predictable weather, larger storms, bigger floods, longer and more severe droughts, changing seasons, and shifting ecologies. Before long, we will see an influx of folks from southern states moving out of harm’s way as they move towards Great Lakes water and a slightly more benign climate. They won’t be simply opportunity seekers, rather refugees like the Okies fleeing the dust bowl in the 1930s.

Given the vacuum of leadership on climate and energy policy in Washington and in Columbus, Ohio, what can be done in this particular place that has stood so firmly for human dignity, racial justice, gender equality, and a long list of progressive causes? Climate change has become the great uniter of what were once regarded as separate movements. The fact is that, whatever one’s cause, it’s a lost cause in dramatic and steadily more capricious climate conditions.

In the past decade, discussion around these issues led to the 2009 creation of the Oberlin Project. The Project is a joint effort of the City and the College to develop a model of “full spectrum sustainability.” In plain English, those words mean something like a jailbreak from the conventional silos, boundaries, pigeonholes, disciplines, and bureaucracies by which we have...
organized governments, economies, education, social movements, and entire worldviews. It is an attempt to "connect the dots" between the various parts of sustainability and thereby give form and operational vitality to the word "systems" in the public realm, and to extend the time horizon by which we judge our successes and failures and our profits and losses. In practical terms, it means having lunch with many different kinds of people and attending lots of meetings to bridge the chasms that divide us by issue-areas, race, class, and political affiliation. In short, we assume that systemic failures that have led us to the present crisis will require systems-level responses, smarter policies, and alert citizens acting with foresight and civic acumen.

Specifically, the Oberlin Project is a joint effort to create an integrated response to the many challenges posed by climate change around seven practical goals:

- Developing a 13-acre district in the downtown (the Green Arts District) at the U.S. Green Building Council's Platinum™ level as the main driver for community economic revitalization. The District will include the restoration of a famous art museum (completed), restoration and expansion of a performing arts center, construction of a hotel, conference center and business complex (2015). The major goals in the redevelopment of the District are to create local employment, income growth, community development, and establish a new benchmark for community-scale green development.

- Create an educational alliance between the College, the Oberlin schools, a nearby vocational school, and Lorain County Community College focused on education appropriate to the challenges and opportunities of sustainability. The transition to sustainability and a more resilient economy poses large challenges to educators at all levels. What does the rising generation need to know to live well and purposefully in the decades ahead? How do we teach them to think in systems?

- Broaden and deepen the conversation on sustainability to include all of the humanities, the arts, the sciences, and the social sciences.

- Collaborate with other projects and communities across the U.S. that are also developing sustainably by integrating food, agriculture, energy, sustainable economic development, education, public policy, community engagement, health, and transportation.

With the onset of rapid climate change, our choice is not whether we do such things, but whether we do them as an integrated, well-thought-out

\[ \text{carbon-neutral sustainability, we propose to create and expand locally owned businesses and promote widespread ownership that spreads wealth throughout the city and thereby increases economic resilience.} \]

\[ \text{grown foods and improve the local farm economy, create new employment opportunities in farming (including summer jobs for teens) and food processing, while improving the taste and nutritional quality of food we eat.} \]

\[ \text{The Oberlin Project is a joint effort to create an integrated response to the many challenges posed by climate change based on seven practical goals.} \]

- Shift the City and College to renewable energy sources, radically improve efficiency, sharply reduce our carbon emissions, and improve our economy in the process. City residents and businesses presently spend ~$15 million each year on electricity and natural gas—twice as much as we would need to spend if we were as efficient as is now economically advantageous and technologically feasible. We propose to reduce energy use by improving efficiency (saving millions of dollars), building a local renewable-energy economy that creates jobs and ownership, and growing the local economy while buffering Oberlin from rising energy prices and sudden cost increases.

- Establish a robust local foods economy to meet a growing percentage of our consumption while supporting local farmers. Presently, only a minuscule fraction of what we eat is grown in northeast Ohio. As with local energy consumption, money unnecessarily flows out of the community. We propose to expand the market for locally
system in which the parts reinforce the resilience and prosperity of the entire community, or otherwise as a series of disjointed, one-off, overly expensive, ad hoc responses to external crises, supply interruptions, and volatile prices. The Oberlin Project decided to situate itself in the "space" between the College, the City, and the community, and we intend to do our work within the next few years to make sustainability the default—and then get out of the way. That is to say that we, as a project, aim to be catalytic and to set processes in motion, rather than establishing ourselves as a permanent fixture.

In short, we aim to join issues normally kept separate into a system in which each of the parts reinforces the health and resilience of the larger community. To that end, we have organized the project's board and its subcommittees around development of a local food economy, energy, policy and finance, community economic development, education, and data analysis. To avoid creating yet more silos, we seek to foster collaboration to find synergies where 2 + 2 = 22, not just 4. We propose, in other words, to give practical meaning to the idea of systems in the day-to-day affairs of the City, the College, and the local economy. Early on, we circulated Donella Meadows' paper, Places to Intervene in the System, to begin a dialogue about where, when, and how to effectively intervene in the system(s) of the City and the College.\[3\] But the fact is that there is no one place to intervene that works in every city, in all circumstances, on every issue, all of the time. Strategies for change accordingly must be flexible: calibrated to locality, situation, culture, and institutional contexts.

Describing what "kind of problem a city is," Jane Jacobs wrote that they are "problems in organized complexity...present[ing] situations in which a half-dozen or even several dozen quantities are all varying simultaneously and in subtly interconnected ways."4 In responding to the challenges of sustainability and resilience in the face of rapid climate change, cities are becoming even more complex. In addition to providing the typical range of services, most cities now have offices of sustainability, climate action plans, and plans for smart-growth and eco-districts. But they will have to do a great deal more.

Effective responses to rapid climate destabilization will require carefully designed policies that improve energy efficiency, beginning with the large energy users in the commercial building and manufacturing sectors. It will require public and private incentives to encourage rapid deployment of renewable energy, taking full advantage of a growing array of ongoing technological advances, including those in energy distribution ("smart grid"). It will require better information, beginning with accurate and publicly accessible models of physical flows, carbon emissions, financial data, and public attitudes. It will require us to restore local/urban/regional agriculture to replace declining corporate farm production in distant heat and drought stressed areas. Effective responses to changing patterns of rainfall that range between drought and massive storms will require rebuilding infrastructure and water storage systems, upgrading building codes to accommodate higher winds and temperatures and larger floods, and upgrading emergency response capabilities. Communities must also adopt policies and laws that promote sustainable economic development and require full-cost prices.

In short, we will have to redesign a great deal of the local and urban physical infrastructure that worked in the brief age of cheap fossil fuels, along with the policies, tax codes, subsidies and other incentives that made fossil fuels profitable for a few while making changes hard for everyone else. The challenges are daunting and long-term, but the technological know-how, design capabilities, architectural skills, urban planning capabilities, engineering, and the idea-capital necessary to the transition already exist. And we have yet to build a citizenry that understands the scale and duration of the challenge and what it will require of them.

A more difficult challenge is that of redesigning organizations, institutions, city governments, corporations, and—yes—even colleges and universities as "learning organizations" and recalibrating their behavior to better match biophysical realities.\[5\] Full spectrum sustainability is neither a more clever way of doing the same old things nor is it tinkering with the coefficients of change. It is, rather, a change in the structure of the systems that have rendered our future precarious. Full spectrum sustainability requires that we learn to see the world—and ourselves—whole, and apply intelligence, foresight, generosity of spirit, and civic competence to avoid unsolvable dilemmas and solve problems before they become full-blown crises.

**The Oberlin Project Today**

So, how far has the Oberlin Project come? In the first three years, the milestones include:

- renovation of an nationally prominent Art Museum in the Green Arts District at the U.S. Green Building Council (USGBC) Gold level;
- completion of a $17 million downtown housing and commercial development (USGBC-Gold);
- renovation of an historic downtown theater;
- selection as one of 18 Clinton
Climate Positive projects worldwide (now part of the C40 cities);
- deployment of a 3MW output photovoltaic system;
- a 90%+ carbon-free municipal electric supply (2013);
- creation of a community board focused economic renewal, policy, development of a local foods economy, and business creation;
- completion of a $1.1 million U.S. Department of Energy (DOE) funded study on the regional transition to energy efficiency and renewable energy;

- completion of the City Climate Action Plan with 50%+ reduction of carbon emissions by 2015;
- and completion of the College plan for climate neutrality by 2025.

We have begun work on a $30 million Platinum (Platinum is the highest level for the USGBC building rating system) hotel and conference center that will be completed in 2015. Total spending to date for all parts of the project from investment, new market tax credits, and philanthropy total approximately $60 million, with another ~$30 million in the final planning stage.

In the larger perspective of time and geography, Oberlin is a very small drop in a very large sea. In that respect, the Oberlin Project is a bench-labor scale experiment: small enough to be agile and instructive, but large enough to be significant in the wider scheme of things. We are the product of a unique combination of history and institutional capabilities that predispose us to give priority to issues of justice, to harness the power of the arts and music in the cause of human betterment, and to think across the conventional divisions of departments and disciplines. Like salt in stew, we are small.
Introduction

by volume but we can and often do change the flavor of issues beyond our borders. In this instance that requires us to become a worthy model and focused catalyst for change at larger scales—helping to advance the bottom-up movement of transition towns, green cities, and eco-districts that work or one day provoke a small outbreak of sanity and purpose in state capitals and national government. For one example, we have already helped to start a dialogue with colleagues at Case Western University, Michigan State University, several large foundations, and investors about connecting rustbelt cities from Flint, Michigan to Youngstown Ohio in a regional sustainable development collaborative focused on smart growth, renewable energy, and sustainable agriculture.

The Oberlin Project is many things depending on one's vantage point. It is:

- a small city scale experiment in the art and science of integrated solutions;
- an educational experiment engaging students in the design and development of a model of integrated sustainability that pertains to virtually every department and discipline;
- a model of homegrown, post-cheap fossil fuel sustainable economic revitalization;
- an improved foods system providing opportunities for good work in a healthier community with more physical activity, wholesome food, cleaner air and water and without toxic chemicals;
- a community-scale model of resilience that reduces vulnerability to outside disruption whether from malice, technological accidents, or rapid climate change;
- and for the future citizens of Oberlin, a source of pride that this small community once again stood up when it counted.

The Oberlin Project is all of these things. But most important, it is an exercise in applied hope based on a commitment to make the world more fair and decent while preserving a beautiful and livable Earth. And if we don't stand for such things, what do we stand for?

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To really save the planet, stop going green.

By Mike Tidwell
Sunday, December 6, 2009

As President Obama heads to Copenhagen next week for global warming talks, there's one simple step Americans back home can take to help out: Stop "going green." Just stop it. No more compact fluorescent light bulbs. No more green wedding planning. No more organic toothpicks for holiday hors d'oeuvres.

December should be national Green-Free Month. Instead of continuing our faddish and counterproductive emphasis on small, voluntary actions, we should follow the example of Americans during past moral crises and work toward large-scale change. The country's last real moral and social revolution was set in motion by the civil rights movement. And in the 1960s, civil rights activists didn't ask bigoted Southern governors and sheriffs to consider "10 Ways to Go Integrated" at their convenience.

Green gestures we have in abundance in America. Green political action, not so much. And the gestures ("Look honey, another Vanity Fair Green Issue!") lure us into believing that broad change is happening when the data shows that it isn't. Despite all our talk about washing clothes in cold water, we aren't making much of a difference.

For eight years, George W. Bush promoted voluntary action as the nation's primary response to global warming -- and for eight years, aggregate greenhouse gas emissions remained unchanged. Even today, only 10 percent of our household light bulbs are compact fluorescents. Hybrids account for only 2.5 percent of U.S. auto sales. One can almost imagine the big energy companies secretly applauding each time we distract ourselves from the big picture with a hectoring list of "5 Easy Ways to Green Your Office."

As America joins the rest of the world in finally fighting global warming, we need to bring our battle plan up to scale. If you believe that astronauts have been to the moon and that the world is not flat, then you probably believe the satellite photos showing the Greenland ice sheet in full-on meltdown. Much of Manhattan and the Eastern Shore of Maryland may join the Atlantic Ocean in our lifetimes. Entire Pacific island nations will disappear. Hurricanes will bring untold destruction. Rising sea levels and crippling droughts will decimate crops and cause widespread famine. People will go hungry, and people will die.

Morally, this is sort of a big deal. It would be wrong to let all this happen when we have the power to prevent the worst of it by adopting clean-energy policies.

But how do we do that? Again, look to the history of the civil rights struggle. After many decades of public denial and inaction, the civil rights movement helped Americans to see Southern apartheid in moral terms. From there, the movement succeeded by working toward legal change. Segregation was phased out rapidly only because it was phased out through the
law. These statutes didn't erase racial prejudice from every American heart overnight. But through them, our country made staggering progress. Just consider who occupies the White House today.

All who appreciate the enormity of the climate crisis still have a responsibility to make every change possible in their personal lives. I have, from the solar panels on my roof to the Prius in my driveway to my low-carbon-footprint vegetarian diet. But surveys show that very few people are willing to make significant voluntary changes, and those of us who do create the false impression of mass progress as the media hype our actions.

Instead, most people want carbon reductions to be mandated by laws that will allow us to share both the responsibilities and the benefits of change. Ours is a nation of laws; if we want to alter our practices in a deep and lasting way, this is where we must start. After years of delay and denial and green half-measures, we must legislate a stop to the burning of coal, oil and natural gas.

Of course, all this will require congressional action, and therein lies the source of Obama's Copenhagen headache. To have been in the strongest position to negotiate a binding emissions treaty with other world leaders this month, the president needed a strong carbon-cap bill out of Congress. But the House of Representatives passed only a weak bill riddled with loopholes in June, and the Senate has failed to get even that far.

So what's the problem? There's lots of blame to go around, but the distraction of the "go green" movement has played a significant role. Taking their cues from the popular media and cautious politicians, many Americans have come to believe that they are personally to blame for global warming and that they must fix it, one by one, at home. And so they either do as they're told -- a little of this, a little of that -- or they feel overwhelmed and do nothing.

We all get into this mess together. And now, with treaty talks underway internationally and Congress stalled at home, we need to act accordingly. Don't spend an hour changing your light bulbs. Don't take a day to caulk your windows. Instead, pick up a phone, open a laptop, or travel to a U.S. Senate office near you and turn the tables: "What are the 10 green statutes you're working on to save the planet, Senator?"

Demand a carbon-cap bill that mandates the number 350. That's the level of carbon pollution scientists say we must limit ourselves to: 350 parts per million of CO2 in the air. If we can stabilize the atmosphere at that number in coming decades, we should be able to avoid the worst-case scenario and preserve a planet similar to the one human civilization developed on. To get there, America will need to make deep but achievable pollution cuts well before 2020. And to protect against energy price shocks during this transition, Congress must include a system of direct rebates to consumers, paid for by auctioning permit fees to the dirty-energy companies that continue to pollute our sky.

Obama, too, needs to step up his efforts; it's not just Congress and the voters who have been misguided. Those close to the president say he understands the seriousness of global warming.
But despite the issue's moral gravity, he's been paralyzed by political caution. He leads from the rear on climate change, not from the front.

Forty-five years ago, President Lyndon B. Johnson faced tremendous opposition on civil rights from a Congress dominated by Southern leaders, yet he spent the political capital necessary to answer a great moral calling. Whenever key bills on housing, voting and employment stalled, he gave individual members of congress the famous "Johnson treatment." He charmed. He pleaded. He threatened. He led, in other words. In person, and from the front.

Does anyone doubt that our charismatic current president has the capacity to turn up the heat? Imagine the back-room power of a full-on "Obama treatment" to defend America's flooding coastlines and burning Western forests. Imagine a two-pronged attack on the fickle, slow-moving Senate: Obama on one side and a tide of tweets and letters from voters like you.

So join me: Put off the attic insulation job till January. Stop searching online for recycled gift wrapping paper and sustainably farmed Christmas trees. Go beyond green fads for a month, and instead help make green history.

Mike Tidwell is the executive director of the Chesapeake Climate Action Network.
Guardian (London) March 15, 2010

How going green may make you mean
Ethical consumers less likely to be kind and more likely to steal, study finds

When Al Gore was caught running up huge energy bills at home at the same time as lecturing on the need to save electricity, it turns out that he was only reverting to "green" type.

According to a study, when people feel they have been morally virtuous by saving the planet through their purchases of organic baby food, for example, it leads to the "licensing [of] selfish and morally questionable behaviour", otherwise known as "moral balancing" or "compensatory ethics".

Do Green Products Make Us Better People is published in the latest edition of the journal Psychological Science. Its authors, Canadian psychologists Nina Mazar and Chen-Bo Zhong, argue that people who wear what they call the "halo of green consumerism" are less likely to be kind to others, and more likely to cheat and steal. "Virtuous acts can license subsequent asocial and unethical behaviours," they write.

The pair found that those in their study who bought green products appeared less willing to share with others a set amount of money than those who bought conventional products. When the green consumers were given the chance to boost their money by cheating on a computer game and then given the opportunity to lie about it -- in other words, steal -- they did, while the conventional consumers did not. Later, in an honour system in which participants were asked to take money from an envelope to pay themselves their spoils, the greens were six times more likely to steal than the conventional.

Mazar and Zhong said their study showed that just as exposure to pictures of exclusive restaurants can improve table manners but may not lead to an overall improvement in behaviour, "green products do not necessarily make for better people". They added that one motivation for carrying out the study was that, despite the "stream of research focusing on identifying the 'green consumer'", there was a lack of understanding into "how green consumption fits into people's global sense of responsibility and morality and [how it] affects behaviours outside the consumption domain".

The pair said their findings surprised them, having thought that just as "exposure to the Apple logo increased creativity", according to a recent study, "given that green products are manifestations of high ethical standards and humanitarian considerations, mere exposure" to them would "activate norms of social responsibility and ethical conduct".

Dieter Frey, a social psychologist at the University of Munich, said the findings fitted patterns of human behaviour. "At the moment in which you have proven your credentials in a particular area, you tend to allow yourself to stray elsewhere," he said.
What is Motivated Reasoning? How Does It Work? Dan Kahan Answers

By Chris Mooney | May 5, 2011 8:32 am

I recently came across this post at Science & Religion Today, authored by Dan Kahan, who is the Elizabeth K. Dollard Professor at Yale Law School. It clarifies so many important issues about motivated reasoning—what it is, what it isn't—that I asked Kahan if I could repost it here, as I think it deserves very wide circulation. He said okay. So here goes:

Recently, scholars and commentators have drawn attention to the contribution of "motivated cognition" to diverse political conflicts, including climate change and the birthplace of President Obama. I will offer a few points to help people assess such claims.

1. To begin, motivated cognition refers to the unconscious tendency of individuals to fit their processing of information to conclusions that suit some end or goal. Consider a classic example. In the 1950s, psychologists asked experimental subjects, students from two Ivy League colleges, to watch a film that featured a set of controversial officiating calls made during a football game between teams from their respective schools. The students from each school were more likely to see the referees' calls as correct when it favored their school than when it favored their rival. The researchers concluded that the emotional stake the students had in affirming their loyalty to their respective institutions shaped what they saw on the tape.

The end or goal motivates the cognition in the sense that it directs mental operations—in this case, sensory perceptions; in others, assessments of the weight and credibility of empirical evidence, or performance of mathematical or logical computation—that we expect to function independently of that goal or end. But the normal connotation of "motive" as a conscious goal or reason for acting is actually out of place here and can be a source of confusion. The students wanted to experience solidarity with their institutions, but they didn't treat that as a conscious reason for seeing what they saw. They had no idea (or so we are to believe; one needs a good experimental design to be sure this is so) that their perceptions were being bent in this way.

2. Motivated cognition is best understood as a description or characterization of a process and not an explanation in and of itself. For a genuine explanation, we need to know, at a minimum, what the need or goal was that did the motivating (or directing) of the agent's mental processing and the precise cognitive mechanism or mechanisms through which it operated to generate the goal-supporting perceptions or beliefs.

Examples of the goals or needs that can motivate cognition are diverse. They include fairly straightforward things, like a person's financial or related interests. But they reach more intangible stakes, too, such as the need to sustain a positive self-image or protect connections to others with whom someone is intimately connected and on whom someone might well depend for support, emotional or material.
The mechanisms are also diverse. They include dynamics such as biased information search, which involves seeking out (or disproportionately attending to) evidence that is congruent rather than incongruent with the motivating goal; biased assimilation, which refers to the tendency to credit and discredit evidence selectively in patterns that promote rather than frustrate the goal; and identity-protective cognition, which reflects the tendency of people to react dismissively to information when accepting it would cause them to experience dissonance or anxiety. Identifying these more concrete and empirically established mechanisms and giving a plausible and textured account of how they are at work is critical; otherwise, assertions of “motivated cognition” become circular—“x believes that because it was useful; the evidence is that it was useful for x to believe that.”

3. To be sure, motivated cognition can make us stupid, but it is not a consequence of stupidity. Social psychologists and behavioral economists distinguish between two forms of reasoning: “System 1,” which is rapid, intuitive, emotional, and prone to bias, and “System 2,” which is more deliberate, more reflective, more dispassionate, and (it is said) more accurate. A long line of research in social psychology, however, shows that “motivated cognition” spans the divide—that is, that needs and goals can unconsciously steer not only rapid “gut” reactions, but also even more systematic forms of analysis that are thought to be examples of “System 2.” Indeed, some researchers have shown that expert scientists are at least sometimes prone to motivated reasoning—that they conform the performance of their reflective and deliberate evaluations of evidence to the desire they have to see exciting conclusions vindicated and disfavored ones rejected. Scary stuff. And humbling (unless as a result of motivated reasoning we see evidence of its operation only in those who disagree with us—in which case, motivated reasoning makes us anything but humble).

4. Work on motivated cognition and political conflict tends to focus more on the need for maintaining a valued identity, particularly as a member of a group. It is certainly plausible that an individual would employ one or another of the mechanisms for motivated cognition to advance her economic interests. But the seeming inability of economic interests to explain who believes what on issues such as climate change, the HPV vaccine, one or another economic policy involving tax cuts or social welfare spending, and the like is in fact the motivation—as it were—for examining the contribution that identity-protective forms of motivated cognition are making.

Dan Kahan is the Elizabeth K. Dollard Professor of Law and a member of the Cultural Cognition Project at Yale Law School.
Americans are culturally polarized on a range of societal risks—from global warming to domestic terrorism, from school shootings to vaccination of school-age girls for HPV. Reporting the results of surveys and experiments involving some 5,000 Americans, the study identifies the causes of this condition and steps that can be taken to counteract it.

The Second National Risk and Culture Study reports the results of studies conducted as part of the Mechanisms of Cultural Cognition Project, funded by the National Science Foundation and the Oscar M. Ruebhausen Fund at Yale Law School. Studies were conducted over a nine month period and involved a diverse sample of some 5,000 Americans.

Principal findings include:

- Individuals of diverse cultural outlooks—hierarchical and egalitarian, individualistic and communitarian—hold sharply opposed beliefs about a range of societal risks, including those associated with climate change, gun ownership, public health, and national security. Differences in these basic values exert substantially more influence over risk perceptions than does any other individual characteristic, including gender, race, socioeconomic status, education, and political ideology and party affiliation.

- In the wake of the mass shooting at Virginia Tech in April 2007, Americans were culturally polarized on whether stronger gun control measures at schools and universities would reduce the incidence of campus gun massacres or instead render it more difficult for students and teachers to defend themselves against such attacks. The tragedy did not change public views on gun control overall.

- In the future, there is a substantial likelihood that Americans will become culturally polarized over what are currently novel, relatively low profile risk issues, including the dangers associated with nanotechnology and the vaccination of school age girls against HPV infection. The source of such divisions is the tendency of individuals to process factual information about risk in a manner that fits cultural predispositions.

- Individuals' expectations about the policy solution to global warming strongly influences their willingness to credit information about climate change. When told the solution to global warming is increased antipollution measures, persons of individualistic and hierarchic worldviews become less willing to credit information suggesting that global warming exists, is caused by humans, and poses significant societal dangers. Persons with such outlooks are more willing to credit the same information when told the solution to global warming is increased reliance on nuclear power generation.

- How individuals respond to arguments about the risks associated with mandatory HPV vaccination for school age girls is highly dependent on the perceived values of the persons making such arguments. Individuals who are culturally predisposed to a particular position are even more likely to form that view when it is espoused by an advocate who shares their cultural outlooks. Such individuals are less likely to form that view—and cultural polarization is reduced—when a person who shares their values advocates a position on the HPV vaccination that is contrary to such individuals' cultural predispositions.
Searching for Common Ground: Ecofeminism and Bioregionalism

Judith Plant

It is no accident that the concept of ecofeminism has emerged from the many tendencies within the movement for social change. Women and nature have had a long association throughout history and it is only now that the deepest meanings of this association are being understood. Just as ecologists have paid critical attention to the attitudes, social structures, and rationalizations that have allowed the rape of the earth, so have feminists dug deeply to understand why society has rendered them second class citizens, at best.

Both schools of thought are now converging with similar analyses. The difference is that ecologists are scientists, basing their views of the interconnectedness of all things on the intellect, whereas feminists cannot help but come from the school of experience and have sought intellectual frameworks in order to try to make sense of their experience of subjugation. The coming together of the two

Ecofeminism and Bioregionalism

gives us hope for an understanding of the world that has the potential to be rooted in "thinking feelingly".

ECOLOGY AND WOMEN

Ecology is the study of the interdependence and interconnectedness of all living systems. As ecologists look at the consequences of changes in the environment, they are compelled to be critical of society. Because the natural world has been thought of as a resource, it has been exploited without regard for the life that it supports. Social ecology seeks ways to harmonize human and non-human nature, exploring how humans can meet their requirements for life and still live in harmony with their environments.

Ecology teaches us that life is in a constant state of change, as species seek ways to fit in particular environments which are, in turn, being shaped by the diversity of life within and around them. Adaptation is a process. Ecology helps develop an awareness of the need to incorporate these organic facts into our most general views of the world—those views that shape the way humans will be in the world.

Within human society, the idea of hierarchy has been used to justify social domination, and has been projected onto nature, thereby establishing an attitude of controlling the natural world. The convergence of feminism with ecology is occurring because of an increasing awareness that there are, in fact, no hierarchies in nature. A belief in the virtues of diversity and non-hierarchical organization is shared by both views.

Women have long been associated with nature: metaphorically, as in "Mother Earth," as well as with the naming of hurricanes and other natural disasters! Our language says it all: a "virgin" forest is one awaiting exploitation, as yet untouched by man (sic). In society, too, women have been associated with the physical side of life. Our role has been "closer to nature," our "natural" work centered around human physical requirements: eating, sex, cleaning, the care of children and sick people. We have taken care of day-to-day life so that men have been able to go "out in the world," to create and enact methods of exploiting nature, including other human beings.
Historically, women have had no real power in the outside world, no place in decision-making and intellectual life. Today, however, ecology speaks for the earth, for the “other” in human/environmental relationships; and feminism speaks for the “other” in female/male relations. And ecofeminism, by speaking for both the original others, seeks to understand the interconnected roots of all domination, as well as ways to resist and change. The ecofeminist's task is one of developing the ability to take the place of the other, when considering the consequences of possible actions, and ensuring that we do not forget that we are all part of one another.

**ECOFEMINISM: ITS VALUES AND DIMENSIONS**

Why does patriarchal society want to forget its biological connections with nature? And why does it seek to gain control over life in the form of women, other peoples, or nature? And what, on earth, can we do about dismantling this process of domination? What kind of society could live in harmony with its environment? These questions form the basis of the ecofeminist perspective.

Before the world was mechanized and industrialized, the metaphor that explained self, society and the cosmos was the image of organism. This is not surprising, since most people were connected with the earth in their daily lives, living a subsistence existence. The earth was seen as female. And with two faces: one, the passive, nurturing mother; the other, wild and uncontrollable.

These images served as cultural constraints. The earth was seen to be alive, sensitive: it was considered unethical to do violence toward her. Who could conceive of killing a mother, or digging into her body for gold, or of mutilating her? But, as society began to shift from a subsistence economy to a market economy, as European cities grew and forested areas shrank, and as the people moved away from the immediate, daily organic relationships which had once been their basis for survival, peoples’ cultural values—and thus their stories—had to change. The image of earth as passive and gentle receded. The “wrath and fury” of nature, as woman, was the quality that now

justified the new idea of “power over nature.” With the new technology, man (sic) would be able to subdue her.

The organic metaphor that once explained everything was replaced by mechanical images. By the mid-seventeenth century, society had rationalized the separation of itself from nature. With nature “dead” in this view, exploitation was purely a mechanical function and it proceeded apace.

The new images were of controlling and dominating; having power over nature. Where the nurturing image had once been a cultural restraint, the new image of mastery allowed the clearing of forests and the damming and poisoning of rivers. And human culture which, in organic terms, should reflect the wide diversity in nature, has now been reduced to mono-culture, a simplification solely for the benefit of marketing.

Since the subjugation of women and nature is a social construction, not a biologically determined fact, our position of inferiority can be changed. At the same time as we’re creating the female as an independent individual, we can be healing the mind/body split.

Life struggles in nature, such as the Stein Valley and the many less-publicized ones, become feminist issues within the ecofeminist perspective. Once we understand the historical connections between women and nature and their subsequent oppression, we cannot help but take a stand on the war against nature. By participating in these environmental standoffs against those who are assuming the right to control the natural world, we are helping to create an awareness of domination at all levels.

Ecofeminism gives women and men common ground. While women may have been associated with nature, they have been socialized to think in the same dualities as men have and we feel just as alienated as do our brothers. The social system isn’t good for either of us! Yet, we are the social system. We need some common ground from which to be critically self-conscious, to enable us to recognize and affect the deep structure of our relations, with each other and with our environment.

In addition to participating in forms of resistance, such as non-violent civil disobedience in support of environmental issues, we can
also encourage, support, and develop—within our communities—a cultural life which celebrates the many differences in nature, and encourages thought on the consequences of our actions, in all our relations.

Bioregionalism, with its emphasis on distinct regional cultures and identities strongly attached to their natural environments, may well be the kind of framework within which the philosophy of ecofeminism could realize its full potential as part of a practical social movement.

BIOREGIONALISM: AN INTEGRATING IDEA

Bioregionalism means learning to become native to place, fitting ourselves to a particular place, not fitting a place to our predetermined tastes. It is living within the limits and the gifts provided by a place, creating a way of life that can be passed on to future generations. As Peter Berg and Raymond Dasmann have so eloquently stated, it “involves becoming native to a place through becoming aware of the particular ecological relationships that operate within and around it. It means understanding activities and evolving social behavior that will enrich the life of that place, restore its life-supporting systems, and establish an ecologically and socially sustainable pattern of existence within it. Simply stated it involves becoming fully alive in and with a place. It involves applying for membership in a biotic community and ceasing to be its exploiter.”

Understanding the limitations of political change-revolution—bioregionalists are taking a broader view, considering change in evolutionary terms. Rather than winning or losing, or taking sides, as being the ultimate objective, process has come to be seen as key to our survival. How we go about making decisions and how we act them out are as important as what we are trying to decide or do.

In evolutionary terms, a species’ adaptation must be sustainable if the species is to survive. How can humans meet their requirements and live healthy lives? What would an ecologically sustainable human culture be like? It is in dealing with these questions that the bioregional movement and the philosophy of ecofeminism are very much interconnected.

Human adaptation has to do with culture. What has happened with the rise of civilization, and most recently with the notion of mass culture, is that what could be called bioregionally adapted human groups, no longer can exist. It’s difficult to imagine how society could be structured other than through centralized institutions that service the many. In our culture almost every city exists beyond its carrying capacity: diverse regions are being exhausted and ecologically devastated.

Becoming native to a place—learning to live in it on a sustainable basis over time—is not just a matter of appropriate technology, home-grown food, or even “reinhabiting” the city. It has very much to do with a shift in morality, in the attitudes and behaviors of human beings. With the help of feminism, women especially have learned an intimate lesson about the way power works. We have painfully seen that it is the same attitude which allows violence toward us that justifies the rape of the earth. Literally, the images are the same. We also know that we are just as capable, generally speaking, of enacting the same kind of behavior.

The ideas of bioregionalism are being practiced all over the world—just rarely referred to as such. The name gives us common ground, however, like ecofeminism. But bioregionalism gives us something to practice and together they could be seen to offer a praxis—that is, a way of living what we’re thinking. Here we can begin to develop an effective method of sharing with our male friends the lessons we have learned about power, as well as our hopes and aspirations for an egalitarian society—a society which would be based on the full participation and involvement of women and men in the process of adaptation and thus in the maintenance of healthy ecosystems.

HOMING IN ON A NEW IMAGE

One of the key ideas of bioregionalism is the decentralization of power; moving further and further toward self-governing forms of
social organization. The further we move in this direction, the closer we get to what has traditionally been thought of as “woman’s sphere”—that is, home and its close surroundings. Ideally, the bioregional view values home above all else, because it is here where new values and behaviors are actually created. Here, alternatives can root and flourish and become deeply embedded in our way of being. This is not the same notion of home as the bungalow in the suburbs of western industrialized society! Rather, it is the place where we can learn the values of caring for and nurturing each other and our environments, and of paying attention to immediate human needs and feelings. It is a much broader term, reflecting the reality of human cultural requirements and our need to be sustainably adaptive within our non-human environments. The word ecology, in its very name, points us in this direction: oikos, the Greek root of “eco” means home.

The catch is that, in practice, home, with all its attendant roles, will not be anything different from what it has been throughout recent history without the enlightened perspective offered by feminism. Women’s values, centered around life-giving, must be revalued, elevated from their once subordinate role. What women know from experience needs recognition and respect. We have had generations of experience in conciliation, dealing with interpersonal conflicts in daily domestic life. We know how to feel for others because we have practiced it.

At the same time, our work—tending to human physical requirements—has been undervalued. What has been considered material and physical has been thought to be “less than” the intellectual, the “outside” (of home) world. Women have been very much affected by this devaluation and this is reflected in our images of ourselves and our attitudes toward our work. Men, too, have been alienated from childcare and all the rest of daily domestic life which has a very nurturing effect on all who participate. Our society has devalued the source of its human-ness.

Home is the theatre of our human ecology, and it is where we can effectively think feelingly. Bioregionalism, essentially, is attempting to rebuild human and natural community. We know that it is non-adaptive to repeat the social organization which left women and children alone, at home, and men out in the world doing the “important” work. The real work is at home. It is not simply a question of fairness or equality, it is because, as a species, we have to actually work things out—just as it is in the so-called natural world—with all our relations. As part of this process, women and nature, indeed humans and nature, need a new image, as we mend our relations with each other and with the earth. Such an image will surely reflect what we are learning through the study of ecology, what we are coming to understand through feminism, and what we are experiencing by participating in the bioregional project.