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How to Save a Planet: A User's Guide

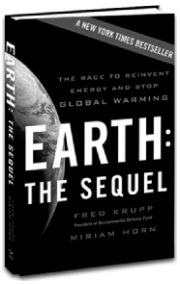
MARK VAN PUTTEN

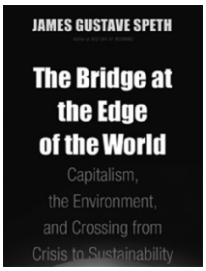
On a recent sultry July morning, about 100 townspeople from Cape Charles, Virginia (nearly 10 percent of the town's residents), gathered on the beach to cheer on Hampton's return to Chesapeake Bay. Hampton, a loggerhead sea turtle, had been stranded a month earlier and was rescued and rehabilitated at the Virginia Aquarium and Marine Science Center. With a few words from the mayor and cheers from onlookers lining a path across the beach, Hampton, filmed by a local television crew, was carried into the calm water; somewhat hesitantly, he swam out into the bay heading south toward the Atlantic Ocean.

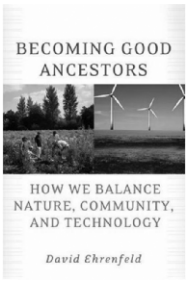
My feelings of elation and celebration faded quickly as I pondered the threats to sea turtles and wondered about the quixotic effort to save one turtle. No one could deny the good intentions of Hampton's rescuers and rehabilitators, or the genuine enthusiasm of those celebrating the release. But will it have any enduring effect on their lifestyles or prompt them to help protect sea turtles? Does it reflect an understanding of—and a commitment to deal with—habitat degradation and climate change, the global threats facing sea turtles and us? Are meaningful and enduring changes in our behavior and lifestyles possible? Will these changes be enough or come soon enough? Will they come voluntarily through shifts in values and attitudes, or must they be enticed and coerced through economics and laws? How can we *really* save Hampton? How can we save a planet?

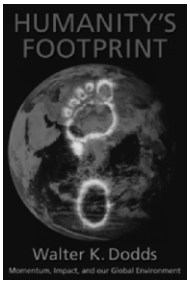
Four new books on the global environmental crisis grapple with these questions. Written by noteworthy scientists and environmental leaders, the answers reflect a tension as old as environmentalism—between prescriptions for incremental policy changes and proposals for fundamental changes to existing attitudes and institutions, between insiders and outsiders.

Fred Krupp and Gus Speth are among the environmental leaders who have defined the US environmental movement for the last few decades. Krupp, president of Environmental Defense Fund, is one of the longest serving and most influential environmental group leaders in the United States. Speth helped found Natural Resources Defense Council, served as a top environmental adviser to President Jimmy Carter, headed the World Resources Institute and the United Nations Development Programme, and is currently dean of the Yale School of Forestry and Environmental Studies. While Krupp and Speth agree in their new books on the challenges of climate change and other global threats, the extent of their differences over solutions is extraordinary given their shared experience as respected leaders of mainstream environmentalism. Krupp and coauthor Miriam Horn argue in *Earth: The Sequel* that clean energy entrepreneurs could solve the climate crisis with new technologies if only the United States and other governments would adopt a "cap-and-trade" policy limiting emissions of greenhouse gases. In contrast, Speth argues in *The Bridge at the Edge of the World: Capitalism, the Environment, and Crossing from Crisis to Sustainability* that incremental changes are inadequate, and he urges a bold and broad agenda for systemic changes in values, lifestyles, institutions, and politics.









David Ehrenfeld's latest book, *Becoming Good Ancestors: How We Balance Nature, Community, and Technology,* offers a curmudgeonly look at modern life and suggests with an air of resignation that it's time to prepare for the unavoidable consequences of our unsustainable lifestyles. Ehrenfeld is a professor of biology at Rutgers University (and a sea turtle researcher), was founding editor of *Conservation Biology,* and has written a number of other books on environmental themes, including *Swimming Lessons: Keeping Afloat in the Age of Technology* (2002) and *The Arrogance of Humanism* (1978).

Finally, in *Humanity's Footprint: Momentum, Impact, and Our Global Environment,* Walter K. Dodds applies principles from sociobiology to describe strategies for changing human behavior as required to meet global environmental threats. Dodds is a professor of biology at Kansas State University and is the author of *Freshwater Ecology: Concepts and Environmental Applications* (2002).

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Greed is good

Krupp and Horn have written a book one desperately wants to believe: *Earth: The Sequel* is an upbeat, optimistic look at solutions to the challenge of global climate change. To their credit, they resist the temptation so common for environmentalists to dwell at length and in unnecessary detail on the depressing array of global environmental ills we face. They move immediately to solutions, predicting on the very first page a "new industrial revolution" in clean energy technologies that will produce the "great fortunes of the twenty-first century."

Krupp and Horn wholeheartedly embrace market-based solutions. In their view, all that is needed to produce the cornucopia of technological innovations that will resolve global climate change is for government to "level the playing field" by "putting a price on carbon" through a national cap-and-trade regulatory scheme. They assert that this "silver bullet" policy solution will "harness the most basic and visceral impulse of capitalism: the pursuit of profit," and the market will then select the optimal mix of technological fixes.

> But this is the beauty of a cap-and-trade system for greenhouse gases: *Under such a policy, it would not matter that no one yet knows which technologies will prove superior.* It would be up to the market—not the government—to find the best ways forward. Instead of forcing utilities to make certain decisions or to back certain technologies, a cap-and-trade system sets a limit and lets the market figure out the cheapest and most efficient means of getting there. Every measure proposed to clean up pollution has a potential role to play. Once a firm upper limit on emissions is set, and a trading mechanism is in place, allowing those who exceed that limit to buy allowances from those who beat their targets, the resulting price signal will determine what cleanup solution makes the most economic sense for any given facility. (p. 178)

Earth: The Sequel is formulaic in its chapter-by-chapter review of every clean technology fix currently under serious study. Each of these eight chapters includes a survey of a promising clean energy technology (usually by profiling an idiosyncratic entrepreneur), a semitechnical description of the technology, and copious quotations from their subjects on the technology's prospects. Each chapter culminates with the silver-bullet cap-and-trade policy prescription.

Krupp and Horn evince an almost childlike awe in describing the entrepreneurs and innovators they portray. For example, they describe Amyris Biotechnologies as a "hot little start-up" with "the buzz, the crackling energy that comes from the mix of youth, world-changing ideas and lots and lots of money.... It's what you might imagine it felt like when Apple was just a seedling, or when Andrews, Clark & Co. was born in 1863—soon to become Standard Oil" (p. 71).

Reflecting a belief in American exceptionalism, Krupp and Horn are convinced, if not convincing, that entrepreneurial capitalism can become "the most powerful economic force in the world in the service of environmental goals" and solve global climate change while preserving our lifestyles:

> We can, in short, use the power of the market system to climb out of the hole created by flawed markets. We can offer a pot of gold to those who develop new ways to generate carbon-free energy and new technologies to remove carbon from our smokestacks and atmosphere. We can channel the full range of human impulses—ingenuity, idealism, ambition—into undoing the damage and healing our planet. America's greatest strength has always been its boundless capacity for invention. In the words of one energy entrepreneur, "The beauty of this country is that every time we're pressed to the wall we come up with new things—we become the most creative force in the world." (p. 8)

Krupp and Horn largely ignore other policy options such as carbon taxes, renewable portfolio standards, energy efficiency standards for vehicles and appliances, and labeling requirements. These options are infrequently mentioned, primarily in passing during their admiring profiles of clean energy innovators. At the very end of the book, Krupp and Horn dismiss a carbon tax in two paragraphs. Measures to promote energy efficiency are not discussed until more than 200 pages into the book, at which point Krupp and Horn grudgingly acknowledge the need for government interventions beyond "pricing carbon right," such as building codes, energy efficiency labeling requirements, and efficiency standards for vehicles and appliances.

Krupp and Horn hardly hint at lifestyle changes. They devote only one paragraph each to reducing driving and changing land development patterns, even while acknowledging the expected doubling by midcentury of vehicle miles traveled. And their policy prescription is disappointingly vague: "Going forward, policymakers may have to require more accountability for the carbon dioxide impacts of transportation and infrastructure decisions" (p. 229).

One explanation for their slighting of other policy approaches and lifestyle changes may be that Krupp and Horn are infatuated by technological progress and entrepreneurial capitalism. "A kind of frontier spirit animates this new energy world: a thirst to venture into the unknown; faith that untapped natural bounty, this time truly limitless, waits just over the horizon; even a moral calling, a new kind of manifest destiny that nearly inverts the nineteenth-century aspiration to dominate nature. This time around, technology will be not the harsh master of nature, but its ally" (p. 140).

Perhaps, however, the seeming naïveté of *Earth: The Sequel* represents instead a tactical advocacy decision. This book most likely was intended to influence congressional and public debate on comprehensive cap-and-trade legislation that was introduced in the US Senate around the time of publication. Krupp and Horn are experienced practitioners of what Speth calls "today's environmentalism" and know how

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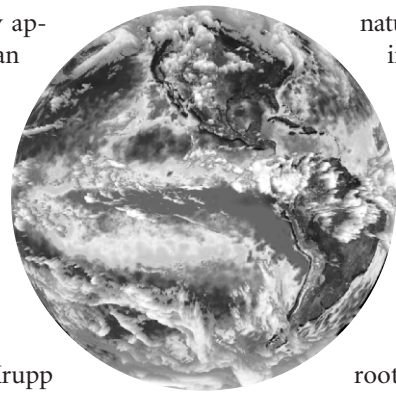
to frame policy prescriptions in politically appealing terms by appealing to the American "can-do" belief in innovation and technology. In the final analysis, *Earth: The Sequel* is a timely tract in support of federal cap-and-trade legislation; it is useful for this purpose, but also potentially harmful to the extent that it oversells a simple solution to a complex problem.



Tottering at the abyss

Speth, Ehrenfeld, and Dodds do not share Krupp and Horn's optimism that market forces and technological innovation can span the "abyss" (to use Speth's term) of global environmental calamity at the edge of which, the three agree, we are tottering. Instead, they discern a "crisis of the spirit" (both Speth and Ehrenfeld quote Vaclav Havel to this effect) requiring fundamental changes in values, institutions, and lifestyles. "Today's problems cannot be solved with today's mind," writes Speth (p. 204); "we must look beyond the world of practical affairs to those who are thinking difficult and unconventional thoughts and proposing transformative change" (p. xiv).

Whereas Speth looks to (and quotes at length from) intellectuals and philosophers "thinking difficult and unconventional thoughts," Ehrenfeld quotes Wendell Berry for the proposition that "'thinking is the most overrated human activity'" (p. 18). "'All around us,'" he writes, quoting Mary Midgley, "'we can see people trying to solve by logical argument, or by the acquiring of information, problems that can only be dealt with by a change of heart'" (pp. 21–22). Ehrenfeld focuses instead on local communities and individual actions, writing that "the way we behave and the values we espouse are at least as important for repairing the world as the plans we make for improving the future" (p. xvi). Ehrenfeld offers a solution as seemingly simple in its program of action as Krupp and Horn's, but with profoundly different priorities: "moral first, technological second."

Dodds concurs that fundamental changes in human behavior are required to combat global climate change. He applies game theory and sociobiology to analyze the imperatives of biological evolution that make cooperative solutions difficult. And he relies on principles of cultural evolution to describe the circumstances under which humans might overcome these imperatives and cooperate to address global warming. "Humanity has reached a point where cultural evolution needs to be guided," he writes, "and the consequences of biological evolution must be controlled. Control over cultural evolution will allow adaptation to life in a global society operating with genetic characteristics not suited for long-term survival" (p. 115).

The books by Speth and Dodds are conventional in their structure, beginning with a survey of environmental woes, complete with ample statistics and charts. Speth reveals his longings for the "pre-Columbian world of 1491, of Lewis and Clark, and of John James Audubon. It is a world where nature is large and we are not" (p. 2). Ehrenfeld also invokes personal history and a longing for a lost natural world, but his style is very different, befitting a field ecologist and teacher. *Becoming Good Ancestors* reads like a natural history field trip: cogent comments on large questions are intermixed with astute observations on immediate circumstances and sometimes lengthy anecdotes about Ehrenfeld's career, colleagues, and family.

Speth, Ehrenfeld, and Dodds agree on the root cause of the crisis of the spirit and of the environmental problems they catalog: the reign of consumer-driven, growth-oriented capitalism presided over by multinational corporations and enabled by a dysfunctional political system. Speth describes the failings of the modern economy the most starkly and with the most depth:

> The escalating processes of climate disruption, biotic impoverishment, and toxification that continue despite decades of warnings and earnest effort constitute a severe indictment, but an indictment of what exactly?... Environmental deterioration is driven by the economic activity of human beings.... The much larger and more threatening impacts stem from the economic activity of those of us participating in the modern, increasingly prosperous world economy.... So, a fundamental question facing societies today—perhaps *the* fundamental question—is how can the operating instructions for the modern world economy be changed so that economic activity both protects and restores the natural world? (pp. 6–7; emphasis in original)

Speth characterizes himself as the "ultimate insider" and his indictment of "the system" is tinged with regret that "today's environmentalism" has not succeeded. "Near the end of my career, I find it impossible to be happy with the results," he writes. "We have been winning battles," he continues, "including some critical ones, but losing the war" because the mainstream environmental community limited itself to working within the system. For Speth, no longer: "It is time for the environmental community—indeed, everyone—to step outside the system and develop a deeper critique of what is going on" (pp. xi–xiii).

Speth, Ehrenfeld, and Dodds concur that systemic change can occur only if America "looks into the abyss" of global environmental collapse. According to Ehrenfeld, "we pretend that we can brainstorm and invent our way out of every fix without making any fundamental adjustments in our lives. This is a fantasy" (p. xiii). Dodd speculates that a "war" to save the environment may be necessary. Speth cleverly makes the same point with a twist on Martin Luther King's most famous words: Dr. King, he observes, gave a dream to people who were living a nightmare, while "we, I fear, are living a dream. We need to be reminded of the nightmare ahead" (p. 234).

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A bridge to...where?

Speth, Ehrenfeld, and Dodds agree that growth-oriented capitalism and the consumerist lifestyle are leading us into the abyss. They also agree on the general outlines of the policy solutions: fundamentally changing growth-oriented capitalism, limiting and restructuring corporations, and reforming our political system. But there are important, albeit subtle, differences among them. For example, while Speth regrets that today's environmentalists did not confront "the system" sooner, he believes there's still time to "build a bridge" over the abyss, crossing from crisis to sustainability. Ehrenfeld, on the other hand, suggests resignedly that we're not likely to build the bridge in time and should prepare for life on this side of the abyss.

All three agree that "growth is the enemy of the environment," as Speth puts it, and capitalism "is inherently an exponential growth economy." They view capitalism as we know it today as driven by a profit motive that inherently externalizes costs, spreads markets into new areas increasing "commodification," and reflects fundamental biases favoring the present over the future and the private over the public.

The solution, for all three, is a fundamental shift in the values underlying our economy, the unlinking of the pursuit of material goods from the pursuit of human happiness. Dodds and Speth both rely on statistical studies of human satisfaction to argue that more things do not necessarily bring greater happiness. Material goods, writes Ehrenfeld, "are a smoke screen to hide our increasing isolation and exploitation by an economy dominated by corporate forces outside our local communities" (p. 81). Speth finds reason to hope this value shift is under way and will soon enable transformative change:

> Is the operating system just described delivering the goods for these other communities? If today's growth and capitalism are delivering high levels of life satisfaction, genuine well-being, and true happiness to societies broadly, then there may be scant chance for real change. But if what we actually have is 'spiritual hunger in an age of plenty,' there is a large space for hope. A system that cannot deliver the well-being of people and nature is in deep trouble. It invites ideas and actions that are transformative. (p. 65)

Speth and Dodds offer fairly detailed proposals to rein in corporations, with significant changes to existing legal rights and expectations. Speth would revoke corporate charters and deprive corporations of "personhood" under law. Ehrenfeld, in passing, recommends a "death penalty" for corporations. Dodds proposes to sever ownership of ecological goods and services from ownership of land (like severed mineral rights), with these services held as a public trust: "The core of my proposal for socioenvironmental restoration involves forming a new idea of who owns and controls global ecological goods and services" (p. 208), he writes.

Speth and Dodds also propose political reforms. Dodd finds it "inconceivable that people of modern democratic societies will vote for policies that will seriously curtail their resource use" (p. 167). Dodds ascribes this to human nature and the inherent disconnect between short-term politics and the long-term nature of environmental problems. Speth agrees that democracy in America today is in deep trouble. "It is unimaginable that American politics as we know it will deliver the transformative changes needed" (p. 217). He blames the corrupting influences of corporate lobbyists and the current system for financing campaigns, coupled with the absence of a broad-based political coalition that unites environmental and traditionally nonenvironmental concerns.

While Speth's indictment of the present state of politics is precise and perceptive, his prescriptions for a new "constrained pluralism" (quoting Paul Raskin)—composed of three complementary ideas, "irreducibility, subsidiarity, and heterogeneity"—are disappointingly vague and his endorsement lukewarm: "Could I vote [in favor of these principles] in this future world, I would not object." To achieve the needed political transformation, Speth argues for broadening the environmental agenda "to the full range of relevant issues," including human rights and a "program to address America's social problems directly and generously" (pp. 224–226).

This broadened policy agenda will not be enough, according to Speth. It is also necessary to build the movement. "What we need now is an international movement of citizens and scientists, one capable of dramatically advancing the political and personal actions needed for the transition to sustainability." Speth, like Dodds, draws a comparison to the civil rights movement of the 1960s: "It had grievances, it knew what was causing them, and it also knew that that order had no legitimacy and that, acting together, they 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" (pp. 228, 231–232).

Krupp and Horn's silver bullet entices in the face of such an ambitious (and diffuse) agenda for policy reform and the wholesale reinvention of current social, economic, and political realities it requires. It may well be, Speth admits, too much. His proposals are not, he concedes, realistic in the near term; they are "the next, next steps." But we need the *next* steps.

Insiders and outsiders

Change, including systemic change, is incremental—except when it isn't. Change happens slowly—except when it doesn't. Environmentalists should operate within the system—except when they shouldn't.

The conundrum of advocacy is the need to operate within the system while also pushing from outside to change the system, to be at once an "insider" and an "outsider." Effective

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advocates press for the plausible within current political, economic, and social realities while preparing for the rare opportunities to transform these realities in ways that render the impossible plausible.

Sadly, opportunities for systemic change are typically generated by crises, the exact nature and timing of which are unpredictable. Fumes from US Steel's smelter in Donora, Pennsylvania, killed 20 people and injured hundreds; a blowout at Union Oil's offshore drilling rig, "Alpha," coated 35 miles of coastline near Santa Barbara with oil up to six inches thick; thousands were killed by releases of methyl isocyanate at a pesticide plant in Bhopal, India; the *Exxon Valdez* ran aground; Hurricane Katrina hit New Orleans.

The results? The first federal Clean Air Act was enacted; the first Earth Day was organized and the National Environmental Policy Act passed; "community-right-to-know" laws were adopted and the environmental justice movement was born; double-hulled tankers were required; and...well, not all crises lead to significant progress or systemic change. That's the point.

Opportunity favors not only the prepared mind, but also the ready muscle—the capacity to mobilize political power at the right moment and focus it in the right places. Good policy prescriptions developed by the best minds are not enough. As Speth realizes, movement building is required. But movement building—in other words, conducting public outreach and education programs, developing leadership, creating compelling messages and building communications capacities, organizing the grassroots, and building coalitions—is hard, unglamorous, expensive, and time-consuming work. And for the most part, today's environmentalists have either neglected it or gone about it in the wrong way, trying to build a movement through top-down coalitions with other organized interest groups.

This, more than the marches and speeches, is the lesson to be learned from the civil rights movement (Branch 1988, 1998, 2006). King and his aides were thoughtful and strategic in figuring out when, where, and how hard to push the system. They built coalitions with existing community leaders in real places. They picked their fights carefully and, usually, well. They mastered media relations. King was personally as dedicated to fundraising as he was to marching and speaking. Robert Moses and others dedicated themselves to the grinding (and dangerous) day-to-day work of grassroots organizing. And until King's assassination, the coalition was inclusive and flexible enough to bridge mainstream pastors and student activists, a consequence of King's tireless efforts to assuage egos, mediate conflicts, and listen and find common ground among competing agendas.

The day of reckoning—that is, the opportunity—is coming. When it comes, it will come more quickly than imagined. A sense of crisis will pervade public consciousness and pressure will mount for a quick (and quick-fix) response, as demonstrated by how four-dollar-a-gallon gas recently transformed in a matter of weeks the national energy policy debate. Are we ready for the opportunity this crisis will present to build a bridge to sustainability before it's too late? Read together, these books demonstrate that we are not. The gulf between insiders and outsiders persists. There is no shared strategy, no coherent and consistent message, and no effective means for tactical coordination between them. So how can we bridge this gulf?

Living in the rubble

Ehrenfeld would build his bridge from the rubble to be found on this side of the abyss. He is certain that dramatic changes will be forced on us by the unavoidable collapse of current lifestyles:

> It is hard to imagine how globalization as presently manifested can survive.... The end of the availability of cheap energy will be at least as important in curtailing bigness and globalization.... The cheap energy to power globalization is a transient phenomenon largely limited to the twentieth century, and now disappearing in the twenty-first.... Now is the time to prepare ourselves for the world that will likely follow, a world of increasing smallness, fragmentation, and decentralization, a world with re-empowered communities and exciting possibilities but also great problems. (pp. 204–205)

Ehrenfeld would build a bridge to a sustainable future by strengthening and restoring local communities. "This better world of the future can be largely—but not entirely—assembled from what we already know," he writes (p. 210). "In other words, local communities will be coming back, like it or not, and it will be greatly to our advantage if we learn the elements that make them good places in which to live, places that reconcile human freedom and responsibility in harmony with the environment" (p. xv). He argues for a fusion of the best elements of conservative and liberal values to build healthy functioning communities that reflect the best of society, while controlling the parochial forces trending toward intolerance, racism, ignorance, and other woes. As Ehrenfeld recognizes, "one of the greatest demands on our social inventiveness" will be building effective linkages among healthy communities to "let us coordinate life-sustaining activities on a much wider scale" (p. 250).

His approach is supported by the fact that community-focused, place-based approaches are already yielding promising results. For example, as of this writing, 850 mayors have joined the US Conference of Mayors Climate Protection Agreement (*www.usmayors.org/climateprotection*). They have committed to transform their cities to reduce greenhouse gas emissions and to encourage climate-friendly lifestyles. They are building connections among their cities and sharing best practices by launching a "climate protection center." They are reaching out to leaders of other sectors, including colleges and universities, with the mayors' new partnership with the American College and University Presidents Climate Commitment (*www.presidentsclimatecommitment.org/html/commitment.php*). More than 550

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college and university presidents or chancellors have committed to developing plans for becoming carbon neutral. Equally important is their commitment to "integrating sustainability into their curriculum [so as to] better serve their students and meet their social mandate to help create a thriving, ethical and civil society."

Action at the local level is being matched in many states. Cap-and-trade policies have been adopted or are being developed by several states, including California, and through a number of regional multistate initiatives. Over half the states have adopted some type of "renewable portfolio standard," requiring the production of some level of electricity from renewable sources (*www.eere.energy.gov/states/maps/renewable_portfolio_states.cfm#char*).

There is a rich array of concrete examples of policy innovations and systemic changes occurring in communities across America (and the world), which deserve careful examination. These examples pragmatically experiment with systemic change and, at the same time, offer tested policy options ready to be adopted at the national and international levels. They unite insiders and outsiders in common commitment to the community in which they live. These examples demonstrate in practice the attitude shifts and lifestyle changes from which to distill a coherent and compelling agenda for systemic change. The leaders in these communities (insiders and outsiders) have developed messages that work, and they have mastered the communication skills needed to reach the general public. These leaders and their followers represent the core of the movement that needs to be organized in order to seize the opportunities to come in the crisis we face.

Perhaps it's no surprise that Ehrenfeld—a field ecologist used to building theory from observations of facts—alone among these authors constructs his theory of change on the well-being of specific places. And it's no surprise that he would bridge the abyss by loosely linking actual healthy communities in a network capable of meeting global challenges. After all, he did study sea turtles and he obviously learned his lessons well from his mentor, Archie Carr, who wrote in *The Sea Turtle: So Excellent a Fische:* "Protection of sea turtles is not a parochial problem. They cannot be saved in any one place" (Carr 1986). Sea turtles can be saved only by coordinated action in all the specific places they link through their migrations and at which they come ashore to lay their eggs—to start the world anew.

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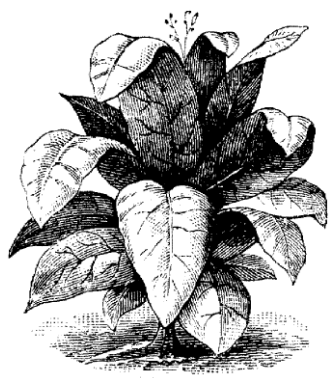

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