**ARTICLES**

The Capacity for Self Renewal  
*By JOHN HAUSDORFFER // PAGE 8*  
This article grows out of the 2013 Geography of Hope Conference at Point Reyes, CA. John Hausdoerffer reflects on the conversations there about change, about letting go, and about the co-evolution of iconic ideals, such as Leopold’s land ethic, and our hopeful geographies. In keeping with the theme of the conference, extending the Land Ethic, Hausdoerffer recalls Leopold’s remark that an ethic evolves in the mind of a thinking community. But he points out that today the “mind” of our “thinking community” has grown more diverse, more global, more urban, more politicized. It is in this uncharted territory that the geography of hope must be mapped anew.

What to Save? The Normative Dilemmas of Resilience  
*By JAKE BORNSTEIN // PAGE 16*  
In this discussion of the notion of social resilience, Jake Bornstein asks a fundamental question: Can we meet the challenges that increasing strains on our climate, resources, and economies will pose without some viable conception of the human and the common good? All visions of the future bring with them different types of social resilience, that are themselves dependent on conceptions of what it means to be human. When discussing resilience it is not enough to simply propose a solution without examining its implicit moral assumptions.

Biocultural Stewardship: A Framework for Engaging Indigenous Cultures  
*By DANIEL CASTON // PAGE 23*  
In this article Daniel Caston argues that discussions of bioculturalism and stewardship should be synthesized into an new concept of biocultural stewardship. This provides a perspective on land use practices and governance that is culturally relevant to indigenous cultures and illuminates pathways for Western cultures to recognize the interdependence of people and nature. It fosters conditions for creating relationships with indigenous cultures to promote biological and cultural conservation and relearn indigenous understandings of alternative ways for humans to relate with the natural world.

**FEATURES**

From the Editor  
*Angle of Repose // PAGE 4*  

CHN Bookshelf // PAGE 46  

The Last Word  
*Wake Up Time // PAGE 47*  

**REVIEWS AND REFLECTIONS**

Urban Greenspace and Collective Health Ownership  
*By MICHELE BATTLE-FISHER // PAGE 34*  
In this discussion of approaches to creating green space and an ecological sense of place in cities, Michele Battle-Fisher asks a fundamental question about social justice: Will there be a parity of access to these new communities regardless of income?

Sustainability’s Source in Human Nature  
*By EARON S. DAVIS // PAGE 37*  
In this reflection on evolutionary continuity, Earon Davis finds that the necessary human motivation to live sustainably is there, in our primate genes. The problem is that without understanding our primate nature, we have created cultures and expectations that undermine our sustainability while seeming to support it.

Workers of the World, Relax  
*By JOHN DE GRAAF // PAGE 41*  
If we are to save the planet from the impacts of unbridled economic growth and provide gainful employment, John de Graaf argues that reduced worktime must be part of the solution.
The Geography of Hope Conference has been held in the village of Point Reyes Station, California, since 2008 and has become one of the country’s most significant literary festivals. It brings, you might say, the natural and the cultural imaginations together for mutual invigoration and creative synthesis. Recent events of this ongoing program have explored the overall theme of “Practicing the Wild,” a notion that is understood not only with respect to the natural world, but also as an inextricable part of human character and culture.

The 2013 conference, held last March, was called “Igniting the Green Fire: Finding Hope in Aldo Leopold’s Land Ethic.” This conference was co-sponsored by the Center for Humans and Nature, together with the Aldo Leopold Foundation, the U.S. Forest Service, and several other groups, and was a gathering of the world’s foremost Aldo Leopold experts. Green Fire, the 2012 Emmy Award-winning film about Aldo Leopold’s life and conservation legacy, was shown at the conference and was discussed by many of those who made the film and shaped the ideas presented in it. The lead article in this issue of Minding Nature by John Hausdoerffer grows out of a concluding presentation that he gave at the conference.

The striking phrase and metaphor, geography of hope, derives from the writer Wallace Stegner. In a letter concerning the preservation of wilderness areas, he observed: “We simply need that wild country available to us, even if we never do more than drive to its edge and look in. For it can be a means of reassuring ourselves of our sanity as creatures, a part of the geography of hope.”

Let us pay close attention to what Stegner, no careless user or waster of words, says here. We need to reassure ourselves of our sanity. Why? Because we are all too capable of losing it. And what sanity? Not our sanity as human minds only, but our sanity as whole “creatures.” The reassurance concerning sanity to which Stegner refers is the sanity that comes from remembering that we are indeed materially embodied and ecologically embedded. That sanity is fragile and often lost because we so often do think ourselves to be otherwise, and behave as if we were. Wilderness by its very existence returns us to sanity by restoring the awareness of our creatureliness. Wild places remind us of the nature of ourselves.

Stegner then goes on to say that this reassurance and remembering are part of a larger structure of mind, a more comprehensive “earth writing” (geo graphie) of hope. Wilderness is an essential part of the earth we write. Its loss would diminish the geography of our lives. To me at least, the notion that hope has a geography—a writing that is from and of the earth—suggests that hope is something more than a sentiment or an emotion only. Hope denotes an active stance in the world, not simply an emotional orientation toward it. Hope’s geography is best understood as a public, outer engagement, not as a private, inner mental state.

Interpreted in this way, hope cannot be divorced from the natural in either its wild or domestic condition. On a planet without wild nature, the geography of hope would be rewritten drastically, its maps redrawn. Perhaps it would not make sense to speak of “hope” in such a place at all. Hope, then, is something other than a belief that something (good)
will happen. Hope is not an empirical report or a prediction. It subsists apart from expectation or optimism. It is, as Emily Dickenson knew, without feathers, without the adornment of a confident account of reality that entails the arrival of the object of our hope.

On the other hand, I do think that hope is worldly in the sense that there must be some grounds for it in what we do understand (through science and history and cultural experience) to be natural laws and social possibilities. Hope is engaged public activity with a purpose. It is an intentional and enabling act of mind and heart that makes sense because the present is subject to change for the better. If a creature’s geography of hope could not exist in a wholly artificial world, neither could it exist in a static world of determined possibility, or in a world entirely without the prospect of social change and moral improvement. In a thoughtful book by Jonathan Lear, *Radical Hope*, we see an example of the second of these conditions in the closing of a culture; in the continuing and even accelerating effects of human activity on global warming, biodiversity, and bio-geological processes, we may eventually see the first of these conditions in wounded ecosystems of profoundly diminished resilience.

Therein lies the rub of central problems with global ecological governance today, especially democratic governance in the most developed and intensively carbon-using countries. That governance, seemingly incapable of undertaking sufficient measures quickly enough to be meaningful to long-term global warming and climate change, poses a lethal threat to our geography of hope. By century’s end we may have rewritten the earth into a map and a landscape of despair.

Remapping hope in the ecological realm on a large scale is insidious, happening with something akin to what the philosopher Hegel called the “cunning” of history—that is to say, behind our backs and with our unwitting collusion. By the time we comprehend what is happening, it may be too late to stop it.

I must say that I come across this alarming idea all the time in what I am reading for my work these days. One recent example comes from Lisa-ann Gershwin’s book *Stung! On Jellyfish Blooms and the Future of the Ocean*. Jellyfish are ancient, hardy, and tenacious creatures. Marvels of reproductive evolution, they are transforming the oceans of the world. This is going on below the level of our political radar and with a good deal of assistance from our own rapacious use of the world’s fisheries. Suffice it to say that, like ourselves, jellyfish are not a species whose behavior is conducive to flourishing biodiversity. If unchecked, they exhaust life and then move on. Gershwin describes her sense of the “cunning” of this truly radical transformation of the biosphere in the following terms:

When I began writing this book, . . . I had a naive gut feeling that all was still salvageable. . . . But I think I underestimated how severely we have damaged our oceans and their inhabitants. I now think that we have pushed them too far, past some mysterious tipping point that came and went without fanfare, with no red circle on the calendar and without us knowing the precise
moment it all became irreversible. I now sincerely believe that it is only a matter of time before the oceans as we know them... become very different places indeed.

Once again Wallace Stegner provides us with an enabling act of mind to comprehend what is happening to us, this time in his metaphorical use of a notion from physics called the “angle of repose.” This, of course, is the title of one of his best known novels, a powerful and disturbing study of aging and intergenerational conflict. The angle of repose is the maximum slope at which a conic pile of loose particulate solid material (such as soil) will remain stable and not collapse. It involves the equilibrium between gravity and friction, forces that bring structures down and that keep them up. Now often referred to popularly, as Gershwin does above, as a tipping point, the angle of repose provides a kind of physical, biological, and economic limit from which we should maintain a safe operating margin through the governance of our activities. Atmospheric carbon pollution leading to climate change is an example of something that has an angle of repose we are not respecting.

Can we retain hope that this angle of repose will be sustained? That the equilibrium between gravity and friction—and their metaphorical extensions into human purposive and institutional activity—can be maintained? That the upright shape and functional integrity of the soil, the land, the biosphere can endure beyond this century?

From a variety of perspectives, the articles and reflections in this issue of Minding Nature address the challenges of hope, resilience, sustaining balance, dynamic tension, and the ethical responsibility human beings have for their own future and the future of the living world.

John Hausdoerffer’s article grows out of the 2013 Geography of Hope Conference and reflects on the conversations that took place there about change, about letting go, and about the co-evolution of iconic ideals, such as the land ethic, and our hopeful geographies. He recalls Leopold’s remark that an ethic evolves in the mind of a thinking community. But he points out that today the “mind” of our “thinking community” has grown more diverse, more global, more urban, more politicized. It is in this uncharted territory that the geography of hope must be mapped anew.

Continuing a discussion begun on natural resilience in the May 2013 issue, Jake Bornstein takes up the cognate notion of social resilience and asks a fundamental question: Can we meet the challenges that increasing strains on our climate, resources, and economies will pose without some viable conception of the human and the common good? All visions of the future bring with them different types of social resilience that themselves depend on conceptions of what it means to be human. When discussing resilience it is not enough to simply propose a solution without examining its implicit moral assumptions.

Daniel Caston pursues a point about the nature of the good to be aimed for in conservation and ecology by suggesting the notion of biocultural stewardship. He argues that past discussions concerning bioculturalism and those concerning ecological stewardship have not sufficiently engaged one another, yet do have potential for cross-fertilization. Biocultural stewardship provides a perspective on land-use practices and governance that
is culturally relevant to indigenous cultures and illuminates pathways for Western cultures to recognize the interdependence of people and nature. He argues that it would foster conditions for creating relationships with indigenous cultures to promote biological and cultural conservation and relearn indigenous understandings of alternative ways for humans to relate with the natural world.

The reflections in this issue carry on this theme. Michele Battle-Fisher brings the question to bear in an urban setting. How does the geography of hope work there? She reviews the discussion of various approaches to creating green space and an ecological sense of place in cities, but she insists that these conversations must engage with equally fundamental questions about social justice. Hope for her takes the active form of insisting that there be parity of access to these newly designed green communities regardless of income.

In his reflection on evolutionary continuity, Earon Davis finds that the necessary human motivation to live sustainably is there, in our primate genes. The problem is that without understanding our primate nature, we have created cultures and expectations that undermine our sustainability while seeming to support it.

Finally, John de Graaf turns our attention to political economy and the shortcomings of a growth-oriented system. If we are to save the planet from the impacts of unbridled economic growth and, at the same time, provide access to gainful employment for millions who lose their jobs due to increased labor productivity, reduced work-time must be part of the solution. This essay considers how people can be healthier and happier without constant economic growth in rich countries, while continuing to provide for increases in the standard of living for those in the less developed parts of the world. Workers of the World, relax.

The Last Word provides a poem drawing on wisdom and perspectives from Navaho culture by Lyla June Johnston. Her title and her text embrace wonderfully the message of this entire issue of Minding Nature.
The Capacity for Self-Renewal

By JOHN HAUSDOERFFER

Lighting one candle
with another candle
spring evening

—Yosa Buson, translated and presented at the 2013 Geography of Hope Conference by Robert Hass

The exposed western shoulder of Mt. Wittenberg offered an expansive view of both geography and hope. As we exited the forest, naturalist Todd Plummer asked our group to pause and take in the land, the ocean, the sky. The contrasts startled me. In the forest, Todd tuned our senses to the subtleties of flora and fauna emerging from California’s coastal soil. The forest’s beauty appeared beneath and beyond scenery—birdsong from over forty species; native plants I had never heard of; the scat of an elusive Puma concolor, one of maybe four remaining on the entire peninsula; Usnea lichen draping from branches, offering vital indicators of air quality; the deep green understory of early spring, soothing my snow-blind Colorado eyes.

Yet in the clearing, we found ourselves suffused, squinting, in open sunlight. To the west, we scanned the Point Reyes National Seashore, gazing out to the rounding blue horizon beyond Drakes Bay. Distant waves washed over one of the world’s most productive ecosystems, feeding into Drakes Estero, where oyster farmers and wilderness advocates tangle over the human place in nature. To the south, a trail traced the bare ridge. Curving southeast, the path returned to the forest, pointing toward the metropolis of San Francisco, one bay away in geography but a universe away in my mind’s eye. Due east, a hundred feet above us, another trail pointed to the bright light and pine scent of Mt. Wittenberg’s peak. An entire continent stretches past that peak, as if our whole landmass begins and ends on the tiny clearing that forms Wittenberg’s summit. To the north, vast views opened again. Cows shared the hills of organic dairy farms with tule elk. We could trace the San Andreas Fault, marked by a wall of Douglas fir. Over a decade ago, the Mt. Vision fire swept through a tinder box of bishop pine until it slowed in this phalanx of fir. The fir burned at lower temperatures than the pine and thus still rose, resilient, just feet away from the recovering land across the fault. To the northeast, the pastoral town of Point Reyes Station sat on the other side of Mt. Wittenberg.

We were gathered in Point Reyes Station for the Fourth “Geography of Hope” (GOH) Conference — inspired by Wallace Stegner’s famous axiom and co-sponsored by Point Reyes Books, the Center for Humans and Nature, The Aldo Leopold Foundation, and the U.S. Forest Service.1 This year’s theme was “Finding Hope in Aldo Leopold’s Land Ethic.” Leopold biographer and conference co-organizer Curt Meine invited me, an environmental ethics professor researching intersections between Leopold’s “land
A STANDARD OF CHANGE

In an excerpt from his one-act play performed on the second night, John Pfitzer (playing Aldo Leopold) said, “I am more of a standard than a person... if I were [a standard], it would have to be a standard of change.” This is an apt way to describe Leopold’s diversely influential career. His life, 1887–1948, spanned the formative years of American conservation. Trained in Gifford Pinchot’s Yale Forest School, Leopold in 1909 headed to the American Southwest to work as a forester, game manager, watershed specialist, and recreational planner for the U.S. Forest Service until 1924. During those years, Leopold evolved from timber-driven valuations of forests to asking land managers to consider “the whole loaf” of “The Forest” as a holistic end in itself. Leopold expanded his view of the forest to include “trans-economic value”—the value of ecological services and spiritual fulfillment that soil, water, grasses, wildlife, and recreation provide. Even further, at the GOH conference, philosopher J. Baird Callicott pointed out that Leopold “foreshadowed the Gaia hypothesis” by wondering if the earth itself, not just “The Forest,” was “a living thing” worthy of moral respect.

Leopold evolved. Most famously, he faced the “green fire dying” in a mother wolf’s eyes. He killed this wolf hoping to build deer populations for hunting, but he eventually learned to see both predators and fire from a holistic point of view. He extended his holistic concept of “The Forest” to become “The Land,” calling it a “fountain of energy” and the “soil-plant-animal-man food chain” (SCA, 216, 178). He began “thinking like a mountain,” asking himself which choices would produce health for all aspects of the land, rather than merely asking which choices would economically benefit humans (SCA, 129).

Leopold also evolved as the loci of environmental change shifted around him. In the Southwest, he oversaw a virtual public lands fiefdom. Healthy land required effective management within a federal bureaucracy. Visionary and skillful management in this context, in fact, led him to establish the first wilderness area—the Gila. But when he moved to Wisconsin in 1924, and especially when he assumed his role as Professor of Game Management at the University of Wisconsin in 1933, he had to work with individual land owners in order to enact change.

In his GOH conference presentation, author, ethnobotanist, and food justice activist Gary Paul Nabhan noted that Leopold had to relinquish the “command and control” culture of public lands he learned in the Southwest. Once established in Wisconsin, Leopold
spent mornings in coffee shops with farmers. Estella Leopold, Aldo’s youngest daughter, also spoke of this practice in her Point Reyes comments. Estella’s father chatted with farmers about the weather and their needs on their farm, and then he would calmly ask “Have you seen any pheasants today?” to open conversations about larger values that he wanted written onto the land.

In the Midwest, an intricate weave of hundreds of small farms now shaped the land he hoped to manage. During the New Deal response to the Great Depression, Leopold learned that federal conservation dollars given to each landowner to plant trees or stabilize soil would not lead to long-term conservation. He thought conservation would stop once the flow of subsidies ceased. In his view, only the combination of economics, aesthetics, and ethics would motivate multigenerational conservation. Once again, Leopold adapted. His 1948 essay, “The Land Ethic,” exemplifies this adaptation: “A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise” (SCA, 224-225).

Given the evolution of Leopold’s thought toward a land ethic, many at the conference wondered how the land ethic itself should evolve generations beyond his death. Aldo Leopold Foundation president Buddy Huffaker said that “we are still drawing pictures of what the land ethic should look like.” Susan Flader, perhaps the first Leopold historian, suggested that “Leopold keeps extending, the relevance of his ideas keeps growing over time.” Ecologist Jed Meunier, a descendent of Aldo Leopold, summarized this sentiment: “[Leopold] lent himself to his own evolution. He evolved over time, and he was very clear about that.”

Leopold biographer Curt Meine emphasized that when Leopold wrote the land ethic, he ironically added that a land ethic could not be written: “nothing so important as an ethic could ever ‘written’ . . . it evolve[s] in the mind of a thinking community” (SCA, 225). In the sixty-five years since 1948, the “mind” of our “thinking community” has grown more diverse, more global, more urban, more politicized. So, to extend Leopold’s own challenge: how must the land ethic “evolve”? At the GOH conference, many discussions of this evolving ethic dealt with the idea of wilderness, a revolution in land use for which Leopold deserves great credit. He designed the first Wilderness Area in the Gila National Forest in 1924 and continued to advance the wilderness idea toward a philosophy and national policy until his death.

WILDERNESS, GEOGRAPHY, HOPE

One cannot talk about Stegner’s “Geography of Hope” without talking about wilderness. The Stegner line that inspired the first Point Reyes conference four years ago comes from a 1960 letter Stegner wrote to a young forester in support of the Wilderness Act (signed in 1964). Stegner said, “We simply need that wild country available to us, even if we never do more than drive to its edge and look in. For it can be a means of reassuring ourselves of our sanity as creatures, a part of the geography of hope.” Stegner meant that the land should reflect our capacity for self-restraint.

At the Point Reyes conference, environmental writer Kenneth Brower (David Brower’s son) highlighted this view of self-restraint, reminding the audience that “these wild places are valuable to us even if we never go there.” Vermont author and Mad River Valley farmer Peter Forbes extended self-restraint to embrace an attitude of “forbearance . . . that i don’t need to go there, that i do not have to have that.” Forbes, like Stegner, is not just crediting wilderness in itself as that which makes us whole, but is saying that our capacity to choose wilderness reflects an exercise of care beyond self-interest. Forbes, like Stegner, is not just crediting wilderness in itself as that which makes us whole, but is saying that our capacity to choose wilderness reflects an exercise of care beyond self-interest. Forbes’ forbearance awakens something in us. The alternative, as philosopher Kathleen Dean Moore emphasized in her comments, is “moral monstrosity on a cosmic scale.” Moore continued, asserting that “it’s wrong to wreck the world,” it is troubling to relinquish “the millions of years it takes to evolve the song in a crane’s throat.” Such a relinquishing is “not just immoral, [it’s] unjust and unspeakable.” Environmental pioneer Huey Johnson (along with Brower) connected Stegner’s sentiment to the opening of Sand County Almanac: “there are some who can live without wild things and some who cannot.” Leopold declared himself “one who cannot,” and Johnson concluded by echoing Dave Foreman’s call for a movement of “Cannots.”

Like these views of wilderness, geographies of hope define us. The act of recognizing the world as possessing more value than a stockroom of resources simultaneously recognizes us as more than bodies consum
ing bodies. Leopold thought about this throughout his career. In 1923, he stated:

And if there be, indeed, a special nobility inherent in the human race—a special cosmic value, distinctive from and superior to all other life—by what token shall it be manifest? By a society decently respectful of its own and all other life, capable of inhabiting the earth without defiling it? Or by a society, like that of John Burroughs’ potato bug, which exterminated the potato, and thereby exterminated itself? As one or the other shall we be judged in ‘the derisive silence of eternity.’

In Sand County Almanac, Leopold called our level of environmental alienation a “spiritual danger,” above and beyond any ecological or social danger—his was, often, a particularly existential ecology. The husbandry Leopold promoted was not just of land—he promoted “cosmic” husbandry, a stewardship of the human spirit through a new ethics tied to the land.

Several speakers in Point Reyes advocated that more diverse geographies should drive our hope, at times naming wilderness as part of what makes geographies devoid of hope. Geologist and professor Lauret Savoy said that “the idea of wilderness is a human idea that was placed on the land”; environmental studies professor Michelle Stevens challenged the idea of “having a wilderness without a people . . . instead of an economic model of land and people together”; author, educator, and musician John Francis spoke of native communities in the Yukon who told him “this is not wilderness, this is our home”; Callicott explained that when seen from indigenous perspectives, “wilderness is a tool of colonialism.”

Of course, this is not a new perspective. Over the past three decades, the “wilderness debate” has become a nexus of conflict among environmental philosophers, activists, scientists, and historians. The debate is too complex to represent fairly in this conference review. But its essence lies in questioning the uses and abuses of promoting landscapes in which “man is himself a visitor who does not remain” (Wilderness Act). Has wilderness given us that promised arena for the derisive silence of eternity?

Wildlife worldwide, have these landscapes “reassured” us “of our sanity”? Or have they inadvertently perpetuated the dynamics of global colonialism that have helped to put our sanity at risk? Has the language of wilderness protection kept struggling environmental justice movements from speaking to where people live, especially excluding those living with disproportionately high levels of pollution and without the privilege of enjoying “wild” places? Or does the reach of wilderness protection stretch the moral imagination to embrace the intrinsic value of all places (and implicitly all homelands, neighborhoods, and peoples) by extending its sphere of care to include places that people will never personally call home? This is a rich and important debate; it will not be resolved here. But the concept of “geography of hope,” as explored in this conference, suggests one possible way forward—a “third way” beyond these dualistic kinds of questions; a third way of the sort Leopold himself liked to form out of the debates of his time.

Chicago environmental justice leader Michael Howard blazed a path for this third way at the Gough conference. Howard shared his successes and struggles in transforming Chicago’s most lead-contaminated acreage into Eden Place, a site of butterfly gardens, environmental education, food production, wilderness, and health care workshops—truly a geography of hope. He offered a personal and historical perspective on wilderness. He recalled 1964, the year in which both the Civil Rights Act and the Wilderness Act were signed. Remembering that year, he said, “I just wanted to be recognized as a human being for education, for access to stores . . . In ’64, for me, it was a different world.” He told the mostly white, middle-class Point Reyes crowd: “You were celebrating the Wilderness Act, while we were celebrating basic rights.”

Howard does not deny the power of wilderness. He takes people from his Fuller Park neighborhood to the wilderness. “There is something spiritual that happens when you reconnect with the ground, and lay down on the leaves, and stare up at the stars.” In addition to wilderness, his connection with the land stretches
back to childhood visits to his land-based family in the south. Both the post-slave southern landscape and the classic wilderness landscape, it seems, played a part in inspiring his call for justice and wilderness on Chicago’s most contaminated acreage. But, as Howard said (referring to Robert Hass’ poem on opening night), “here’s the problem . . . I need your help to light the candle in places like Fuller Park . . . I built the candle but I’m going to need your help to light it, so people in Fuller Park can relight it.”

Michael Howard’s hope merges three geographies—working landscapes infused with historical trauma and ancestral ties, wilderness landscapes that inspire “something spiritual,” and our communities, all communities, especially those once deemed uninhabitable. All three must co-evolve for Fuller Park’s sake and for the sake of a vibrant land ethic in our time.

**LEOPOLD’S EVOLVING WILDERNESS**

Leopold’s idea of wilderness expanded between his 1924 Gila Wilderness Area and his final work, *Sand County Almanac*, published one year after his death in 1948. His original Gila Wilderness was to be big enough to allow a “two weeks’ pack trip,” reflecting his view of hunting as a spiritual connection with the holistic value of The Forest. Leopold’s view of wilderness as consisting of untrammeled “virgin” lands persisted throughout his career, even though his central purpose for wilderness evolved from the hunter’s experience to the ecologist’s understanding of “land health” in places as far as Mexico’s Sierra Madre in 1937. That said, once the Gila was established, Leopold began to broaden his interpretation of wilderness landscapes. In a 1925 essay entitled “Wilderness as a Form of Land Use” he asserted that “wilderness exists in all degrees, from the little accidental wild spot at the head of a ravine in a Corn Belt woodlot to vast expanses of virgin country . . . . Wilderness is a relative condition.”

“All degrees”; “relative condition.” These are fighting words in our twenty-first century wilderness debates. Leopold continues, “As a form of land use it cannot be a rigid entity of unchanging content, exclusive of all other forms.” Leopold would not go so far as to say wilderness is a *human construct* in the way that many have suggested. Leopold thinks that the “head of a ravine” has something in it that cannot come from us—a wilderness that can only develop from “the remote fastness of space and time” (*SCA*, 148). However, by the time he published *Sand County Almanac*, he focused on the capacity of the wilderness experience to awaken new levels of ecological “perception,” which he deemed a “change in the mental eye” for humanity (*SCA*, 173-174).

This new “mental eye,” for Leopold, could develop in any sort of place: “the weeds in a city lot convey the same lesson as the redwoods; the farmer may see in his cow-pasture what may not be vouchsafed to the scientist adventuring in the South Seas” (*SCA*, 174). When studying weeds teaches as much and harms less than traveling to the great redwoods, Leopold has truly imagined an adaptive geography of hope within his idea of wilderness. But it is not a hope found in certain kinds of geographies. It is a hope found in a certain way of geographic perception, possible in “wild” forests, around cornfields, and in city lots—a potent precursor of the three geographies that shaped Michael Howard’s hope. In the film *Green Fire*, Dave Foreman challenges us to learn about the “whole Leopold,” and part of that whole Leopold is a view of wilderness that includes and complicates the vast, untrammeled landscapes we like to call wilderness today. Leopold could hold it all in his head, in his moral compass, in a way in which we still struggle to capture in the form of a movement.

At the conference, Iowa farmer and former Chief of the USDA Natural Resources Conservation Service Paul Johnson shared Leopold’s views that the “individual farmer . . . must weave the greater part of the rug on which America stands,” that “conservation means harmony between men and land,” and that “land . . . is not merely soil.” He calls this level of ownership on a working landscape “the real geography of hope that includes the individual and the relationship to the land.”

Forbes added to this perspective of the particular. He introduced himself through the places that had formed him. He talked of the importance of *querencia*, “the place where the animal lives . . . the tendency to return to where one was born . . . responsibility . . . the place of one’s memory . . . to love and be loved.” Praising Leopold for his declaration that the relation of people to the land and the relation of people to each other are his two concerns in life, Forbes said that “we
cannot protect land from people, we can only protect land with people.” Environmental destruction comes from “failed human relationships” for Forbes, and thus the most effective way to save a place is to live there. Johnson discussed the relevance of Leopold for how we think about working landscapes as another “part of” (to continue Stegner’s thought) the geography of hope. Forbes advances Johnson’s point, opening space for wilderness, working landscape, and perhaps even sites of environmental justice movements to find common ground—rooted in Leopold. Just as Forbes “would not be whole without wilderness,” so he recognized that “failed” human relationships are what threaten the hopes of both wilderness and working geographies of all kinds.

Playing with Leopold’s concept of land health, Gary Paul Nabhan argued, “We need to ask how land healing can translate to human health and community health.” He asked: “Can ecological restoration translate to community restoration and a restorative economy?” The days of separating and segregating these forms of restoration have ended. Individuals, communities, and the land must be integrated. For example, Nabhan spoke of a hummingbird dying in his hand on the day he moved to his Arizona home because of a lack of health in the land to sustain its migration; he pointed to the 60 percent of Mexicans on the U.S. side of the border suffering from a lack of food security, while 30 percent of their children suffer from hunger; he referred to the violence of the immigration system and debate. Issues like climate change and food insecurity mean that we (all of us) ignore their interconnections at our own peril. He concluded that “justice for those people and justice for the hummingbird is the goal that drives me.”

Hope springs from the complicated geographic negotiation of wilderness, working landscapes, and environmental justice— as in Michael Howard’s diverse experiences fueling urban revitalization, as in Peter Forbes’ blend of farming and wild forbearance in building “whole communities,” as in Paul Johnson’s and Gary Paul Nabhan’s understanding of how land health fuels community health and justice, and as in Aldo Leopold’s vision for “virgin” forests, cornfields, and city lots as sharing something wild.

SELF-RENEWAL

Wilderness might have evolved at least once more had Leopold lived on, more toward wildness. In “The Land Ethic,” Leopold argues that “the capacity for self-renewal” (for a whole biotic community, including humans) defines “land health.” In turn, any “thing” that leads to self-renewal defines health and violence, and right and wrong, in a revolutionary way. His land ethic is rooted in and measured by “self-renewal.” Perhaps wildness itself lies in self-renewal.

Can the land ethic inspire future changes in how we define the geography of hope? Leopold was conscious about including humans, and human communities, in his conception of the biotic community. So, what does it mean for a human being to have “the capacity for self-renewal”? What does it mean for a human community (including Coon Valley in Wisconsin, Vermont’s Mad River Valley, the Arizona-Mexico border, and the South Side of Chicago) to have “the capacity for self-renewal”? What does it mean for a wilderness—including a “rewilding” approach that supports wide migrations of keystone predators—to have “the capacity for self-renewal”? What does it mean to achieve a collective self-renewal that encompasses individual agency, community autonomy, and ecological health?

The word “wilderness,” scholars like Roderick Nash and activists like Dave Foreman have told us, derives from the old English root word meaning “self-willed land.” That phrasing is packed with potential in thinking about how an evolving land ethic might merge multiple geographies of hope. How can self-willed individuals who were once viewed as less than human, and self-willed communities fighting against their place becoming everyone else’s away, find common cause with those movements for self-willed land? Leopold historian Julianne Lutz Warren (formerly Newton) offered a definition of hope at the conference that makes more sense now. She called hope a “gift that’s given when interagency and interdependency shimmer in disequilibrium.” Perhaps that is how Leopold’s idea of “self-renewal” should evolve in our thinking community: toward the realization that geographies only have hope when the “interdependency” of land, humans, and communities express “interagency” and possess “self-will.”
DIVIDED GEOGRAPHIES, EXPLOITED HOPES

The conference ended with a challenge for next year. Ken Brower and Huey Johnson lamented the conference’s lack of focus on the future of wilderness as a cause that “confronts forces that have been devastating to nature.” Johnson concluded: “I don’t want to lose it; I don’t want my kids to lose it; nor my grandkids. So, I hope next year you call [the conference] “The Cannots.”” If so, I will certainly be there, as Mt. Wittenberg reminded me that I, like Leopold, “cannot . . . live without wild things.” But how do we merge those who “cannot live without wild things” with those who simply cannot live? How can the candles of wilderness, working landscapes, and environmental justice more effectively light each other?

This is, of course, easier said than done. In fact, the communities around Point Reyes are mired in a divisive conflict over a new wilderness area that would displace the Drakes Bay Oyster Company. It at first seemed odd that a conference focusing on the legacy of two formative wilderness philosophers (Leopold and Stegner), a conference taking place in Point Reyes, would not organize a panel focused on this issue. But the GOH conference provided a break from local positions to explore larger values and frameworks for blending geography and hope—for all places. This decision to avoid an explicit focus on a relevant Point Reyes dispute might have, ironically and implicitly, shed more light on this growing issue than an explicit debate about it would have.

In late 2012, the Drakes Bay Oyster Company, popular among San Francisco-area sustainable food leaders, sued Ken Salazar’s U.S. Department of the Interior for enforcing the termination of a forty-year lease in order to designate a new wilderness area—the first marine wilderness area in the country. Along with progressive leaders like Senator Diane Feinstein, the family-owned company continues to seek a ten-year extension of their lease in federal courts, arguing for the ecological sustainability of their practices. Wilderness advocates express localized concerns about Drakes Estero’s fragile habitat and nationalized concerns about the precedent of allowing mechanized, private production in a designated wilderness area. They fear a cross-country wave of industrial claims to wilderness areas and challenges to the 1964 Wilderness Act. This conflict between local food and wilderness has split the environmental community in the region, raising complicated questions about the future role of wilderness in our environmental imagination.

Since my March afternoon on Mt. Wittenberg, though, the question of whether Drakes Estero should be a wilderness area has become even more complicated. The Drakes Bay Oyster Company continues to appeal the Ninth U.S. Circuit Court of Appeals’ decision that Drakes Bay must close their oyster operation for the sake of the new wilderness area. Republican congressional leaders like Natural Resource Committee Chairman Doc Hastings have joined the fight on the side of the oyster company. In the spring of 2013, Republican Senator David Vitter went so far as to propose a bill to approve the controversial Keystone Pipeline, permit production in the Arctic National Wildlife Refuge, expand offshore drilling, and extend the Drakes Bay Oyster Company’s lease another ten years. Cause of Action, a conservative group whose leader has ties to the industrialist, libertarian Koch brothers, provided the lead attorney for the oyster company—though the oyster farm broke ties with Cause for Action after a PBS story in May 2013. These unlikely partners thus range from environmentalists concerned with a model of wilderness that displaces local food, to Tea Party activists exploiting this issue as another battle in their war against government “overreach,” to industry groups hoping to dilute the Wilderness Act nationally. Environmental movements continue to make themselves vulnerable to such divide-and-conquer strategies by (sometimes contentiously) separating wilderness, working landscapes, and urban environments. The “either-or” tone of the Drakes Bay debate has fueled the forces driving larger problems like climate change and environmental de-regulation.

Lauret Savoy spoke of the Point Reyes conference
as “a place of transformation—geologically, personally, spiritually, and ethically.” Savoy’s father, Willard Savoy, once wrote a novel called Alien Land that struggled with his “racing from being black” and exposed the “separate trap” of race in America. For Savoy, Aldo Leopold’s questions are not dramatically different from the questions her father asked. She summarized both by asking the audience: “Is it possible to reject, deny, what alienates and separates us?” She hoped the land ethic could evolve, so that “the land ethic and Alien Land” can “meet.”

Wallace Stegner gifted us with a phrase, “geography of hope,” that frees us to let go of another “separate trap”—certain landscape categories as the primary ends of environmental care. Stegner’s phrase and the conference both remind us not to confuse means and ends, tactics and strategies. Rather than displacing a local farm for our love of nature or rather than diluting the Wilderness Act in order to have local food (which seem to be the two options presented), how might the Department of Interior, how might the wilderness and food movements of the Bay Area—this cradle for so many environmental revolutions—imagine a third way for Point Reyes like Michael Howard has in Chicago, like Gary Paul Nabhan has in the borderlands, like Peter Forbes has in Vermont?

Could Point Reyes produce our next geography of hope? Vitter’s bill should sound an alarm. It should warn us against continuing with the “separate trap” of divided environmentalisms that has held the land ethic back. The kind of evolution that this conference, and Leopold himself, called for suggests a way forward.

John Hausdoerffer is a Professor of Environmental Sustainability and Philosophy at Western State Colorado University, in Colorado’s Gunnison Valley. He is also Director of the Master in Environmental Management Program and the Headwaters Conference at Western. He is the author of Catlin’s Lament: Indians, Manifest Destiny, and the Ethics of Nature, (University Press of Kansas, 2009) and is currently working on a book investigating intersections between Leopold’s land ethic and environmental justice.

NOTES
1. Special recognition goes to Point Reyes Bookstore owners Steve Costa and Kate Levinson, who have reinvented the community role of bookstores in the age of Amazon and make for exceptional hosts and conference organizers. Special thanks also go to the over twenty-five volunteers and homeowners who made the event so fluid and welcoming. I would also like to thank Curt Meine, Steve Dunsky, and Steve Costa for inviting me to review the conference, and for comments on early drafts. Brooke Hecht’s encouragement was also vital to this review, as were comments from Bruce Jennings, Sean Prentiss, Jeff Sellen, and Jerry Frank.
7. Ibid., 260, 255; see also SCA, 216.
What to Save?
The Normative Dilemmas of Resilience

By JAKE BORNESTEIN

In the first part of this series of essays on resilience, I discussed the general dynamics that make a social system resilient. I presented resilience as “the degree of disruption a system experiences in response to changing circumstances.” The Oxford dictionary definition is a bit less rigorous, but essentially the same: “the capacity to recover quickly from difficulties; toughness.” Both of these definitions present resilience as an anodyne feature of a general system, and they work fine as a functional way to initiate a conversation about priorities. However, the concept of resilience demands deeper questions about what the concept really means and how we should consider it. As we enter a future in which the earth ceases to behave as it has for the entirety of our evolutionary past, competing visions of resilience are likely to become central, whereas current discussions that juxtapose resilience and “efficiency” will recede.

While many people interested in sustainability, degrowth, slow money, conservation, and other subjects clumped together under the label “green” are likely motivated in part by a moral sentiment of deep ecology, a practical concern for the resilience of human society forms a significant undercurrent that is only likely to grow. A number of the leading voices for action on the various natural limits we rapidly approach—including Bill McKibben, Richard Heinberg, Lester Brown, Jeffrey Sachs, Rob Hopkins, Woody Tasch, John Michael Greer, and Serge Latouche, among others—offer a call to the ramparts to preserve society in the face of the oncoming volatility such limits will soon impose. As governments, communities, and individuals begin to grapple with the practical complexities of resilience, the question of what exactly we’re preserving, and what we should preserve, will become unavoidable.

WHAT IS RESILIENT?

It is much easier to talk about resilience regarding a system with a clear barometer of functionality, such as an electrical grid. If it can continue distributing electricity in the face of floods, fires, tanks, and neglect, it’s safe to say it’s resilient. Applied to humans, however, such talk runs into the ontological wall noted by Heidegger and the later existentialists: it’s hard to say what exactly is the point of the human experience. In modern times we’ve taken to defining the significance of human existence apart from the context of religious belief and obligation. Nietzsche noted that given their origins in arrangements of social obligation, claims to external validity are properly understood not as truths, but as “genealogical” artifacts, dictated by social mores that emerge as a service to those in power. Aristotle may have tried to escape the issue two millennia earlier by use of the concept of eudaimonia (“good spirit/flourishing”) as the ultimate goal of human life and society, but this notion, like other normative conceptions of the human good, has fractured and cannot be the basis of cultural consensus any longer.
If resilience is about how a particular system responds to external changes, discussing resilience of societies, particularly with human-caused, global disruptions as the main referent, is then difficult to do without addressing these more timeless questions about what values we want to impute to human life. Is the goal of a society to ensure the bare survival of the highest number of its members? To maintain its material consumption? To keep in place a particular set of social relations? Do such goals truly represent the “common good,” or are they merely a composite of the preferences of those individuals that compose society? Can we meet the challenges that increasing strains on our climate, resources, and economies will pose without some viable conception of the human and the common good?

Imagine, for example, that we want to improve the resilience of our society in the face of uncertain energy access. Without explicit reference to what we want to preserve, it is difficult to have the conversation. It would be easy for people of means to focus on the resilience of their own energy access, whether through lobbying for government funds directed to their districts or building out their own renewable infrastructure. But such an approach would likely do little for the capital-strapped (easily the majority in our country), and a broader view of social resilience could focus on regulations to provide rationed access through the current grid, or on making our infrastructure more friendly for low-cost alternatives like bikes and solar cookers. What about the massive server banks that power the seemingly intangible Internet; would we want to make sure they keep running at the expense of more tangible needs? How about the technology involved in our research operations—even if grand technological fixes to problems are possible, will we be willing to trade off current resources to develop them? Would we want to pour energy into keeping current transportation infrastructure operating or completely rearrange our economic lives around the new scarcity? Under such a change, who would win and who would lose, and what, in the end, would be considered a “resilient” shift?

These questions, difficult as they are on their own, are complicated by the use of “society” as our unit of reference, as there are plenty of legitimate arguments about what exactly “society” means. The most common social referent worldwide is still based in kinship systems. More artificial imagined communities and political association that cut across family, clan, and tribal lines still struggle to capture the loyalties and identities of common people. Classical definitions of the concept of the political—particularly Aristotle’s view of citizens freely associating to protect their mutual interests (koinonia politike)—still have appeal, but it’s important to note that that the notion of citizenship, as in Aristotle’s own time, is not inherently universal; it can be limited to male landowners, whereas women, children, resident aliens, slaves, and the land itself are outside the political association and remain in the domain of the household, the private realm of economic production and biological reproduction.

Alternatively, Plato’s vision placed the internal balance and pursuit of truth in the society as its end goal, explicitly at the expense of the preferences and experiences of those who composed it. In the post-classical period (and ongoing in some international relations and policy-making circles) the referent has often been the established social regime rather than the individuals who make up a society. For example, medieval scholars applied Plato’s framework to the structures and ideals of the time, which placed a heavy emphasis on ties of obligation to the Catholic Church. Canon law and its scholars promoted a cross-regional Corpus Christianum centered on the Church, in opposition to the secular rulers of the time—a similar concept appealed to today in the Muslim concept of the Ummah, or society of the faithful. Even philosophers who emphasized the individual as the basis of society, such as Hobbes, quickly went on to rhetorically build a vision of society as a body that existed as the non-corporeal extension of a single ruler (a popular formulation by absolutist monarchs of the time).

The notion of the modern nation-state as the referent for “society” is notably new; its first rumbles in the Peace of Westphalia (1648), which formally tied the religious and social policies of groups of people to delineated regions. Other conceptions include our modern emphasis on society as a series of economic interactions, first introduced by Hegel, and Marx’s critical extension of this stance, in which any notion of common society is meaningless in the face of competing class interests. All of these conceptions, in one form or another, identify the meaningful locus of so-

As [we] grapple with the practical complexities of resilience, the question of what exactly we’re preserving, and what we should preserve, will become unavoidable.
ciety within a set of geographic, genealogical, institutional, ideological, or economic relations.

Returning to the example of energy disruption, how would we even begin to address practical questions without addressing whether we want to keep intact the national legal and market structures currently in place? The series of choices offered above, dependent as they are on our conception of human good, are inextricably tied in practice to whom we consider to have a voice in our society, and how those voices matter for making decisions. Similarly, such questions stray into a vexing debate between action in your immediate community (interacted with daily) versus the wider community of the nation or world. It’s unclear, for example, how a pullback in global capital flows to wealthier countries from poorer nations would be interpreted from a resilience perspective. While there are many good reasons to think that these capital flows can in some cases undermine the resilience of cash-strapped economies, in many cases the additional infrastructure can insulate them against outside shocks. Attempts to answer that question start with where you draw the boundaries of the system intended to maintain function.

Alternatively, as Margaret Thatcher famously declared, “there is no such thing as society.” Robert Nozick presented this notion more formally as the argument that any appeal to the notion of society is essentially coercive, that individuals are the only experiential unit, and thus, governance, policy, and ethics are only relevant when framed in terms of individual experience and choice. The burgeoning “prepper” movement in the United States—focused on preparing an individual family for social upheaval, often with an expectation of violence—provides a tangible example of how thinking about resilience through this type of philosophical framework can alter one’s approach.

Thus, when speaking of society, it’s possible to mean a particular group within it (like the nobility), an interlinked series of institutions, a set of ideals (like theological canon, democracy, or rule of law), a specific geographic or ethnic community, some abstract gauge of general well-being like per-capita GDP within a national boundary, a Rawlsian vision of marginalized group protection, or simply an analytical catch-all for the individuals self-identified as part of it. Because the word society innately reflects the social conception of the speaker, speaking of the resilience of society in terms of its ability to maintain its functions will essentially turn into a pulpit for pushing the vision of the functioning society that the speaker explicitly or unknowingly favors.

Moreover, there is always some relationship between a proposed social conception and its practical beneficiaries, even though that relationship is not always transparent. It is no accident that libertarians and other groups that place personal liberty as the highest good and the individual as the only worth unit of moral analysis have found staunch support amongst large corporations. Such appeals to the isolated individual provide the perfect air cover for dominant power structures, in much the same way that appeals to the divine have long been a vital support to eminently earthbound claims to material comfort and influence. It is not a surprise then to find the former group putting its hope for resilience in the responsive powers of market innovation, or the latter in a return to the church.

The notion of referent is further complicated by the muddy connection between the resilience of one element of a social system and others. Edmund Burke’s classic work *Reflections on the Revolution in France* is a powerful—and, in view of the excesses and instability of the Jacobin regime, a prescient—defense of the governing status quo for the sake of stability. As a social system, England’s monarchy has been remarkably resilient, and from a domestic bloodshed perspective, the history of England over the past three centuries versus the majority of its revolutionary contemporaries is comparatively resilient. This has come at the cost, however, of an entrenched system of power
that still sees 80 percent of the land owned by 1 percent of the population, composed of many of the old noble families, and of course, the crown—a domestic injustice that doesn’t even begin to touch on the colonial legacy enabled by that social stability (England has invaded nine out of every ten countries in the entire world). A focus on stable governance has allowed adaptive institutional change over time, but the parameters of that change have been remarkably resilient, to the detriment and instability of groups who find themselves on the outside of that system.

Thus, while in some cases institutional resilience may lend itself to the resilience of other entities, it’s entirely possible that the resilience of a given social order may be contrary to the resilience of systems outside of that entity’s borders. The international banking system is a viable example of this phenomenon at work; the consolidation of local banks into global banking super-giants has made these banks and their shareholders—through a combination of genuine diversification and coercive power attained by size—more resilient as far as their own existence goes. However, the globalization of finance has also allowed for world-spanning bubbles and busts, acting as a destabilizing force within the world economy as a whole, with particularly devastating effects on the poor communities and countries inundated with, then starved of capital (the U.S. subprime crisis in 2008, the southeast Asian collapse in 1997, and the Mexican banking bust in 1982 are recent examples). Similar examples can be found in most empire structures, where a central entity derives internal resilience from external destabilization, from the Roman empire’s internal stability during its period of rapid military expansion and capture, to the current ability of the United States to buy macroeconomic stability by devaluing the fiat debt backed by its large military and held by international creditors with few alternatives.

As these cases illustrate, one challenge when discussing resilience is the reality that in a fundamentally unjust society, resilience of the governing order could be a source of tremendous suffering. Anyone thinking about how their actions may shape our collective future will need to grapple with the fact that what they choose to help preserve may degrade or improve the preservation of related systems. As an example, such concerns gird one pillar of the opposition to GMOs: in the cases where they actually do boost yields, they simultaneously provide continued support to mono-cultural farm practices and the capital-intensive, corporate mining the type of resilience we want to pursue.

**RESILIENCE OVER WHAT TIME-FRAME?**

From the perspective of the average Western family over the past century, the explosive economic growth and accompanying complexity allowed by the mining of fossil fuels and soil nutrients has brought about an unprecedented improvement in social resilience. The resilience embodied in this boom is difficult to dismiss: Crop failures in one region can be alleviated by shipping in food from another; regional depressions prompt rapid out-migration; remote fires are fought by squadrons of helicopters scooping up water from nearby lakes and by the use of chemical flame retardants. We may unknowingly be reaching the end of such fossil-fuel related resilience responses of this kind, as 50-million Americans report struggling to put food on the table, and rising food prices trigger riots and revolutions across the Middle East and Asia. Nevertheless, the critical point is that as a social observer at the turn of the last century, the industrial model may have seemed the best possible way to improve resilience for yourself, your children, and most broader definitions of society. Conceptions of social resilience in current society rarely reach as far as the next generation, with emphasis placed on restarting the debt engine to improve quarterly employment, or desperately drilling in as many holes as possible to keep energy prices within bounds that allow the flexibility and resilience of the industrial system to continue rolling down the highway.
It is perhaps a cliché at this point (judging by its appearance as a detergent brand, “Seventh Generation”) to refer to the Lakota tribe’s concept of making every decision with the interests of seven generations, but it’s important to periodically remind ourselves that even talking about the conditions our grandchildren will face is a bit myopic, though perhaps practical through the human experience of time.

However, the notion of resilience as temporal at all, whether for one generation or seven, may be a shallow way to approach the issue. Temporal conceptions run into a number of problems, not least of which include the impressive unknowability of the future. Systems put in place to protect future generations over a given timeframe can quickly be rendered irrelevant by changing circumstances on the ground. Then there is the uncomfortable reality that all human systems, however designed, share the fate of the message of Ozymandias buried in the desert sands, proclaiming himself king of kings to people who have forgotten him and indeed can no longer even read the signs of their past existence.

It is possible, however, to take an atemporal view of resilience, emphasizing not specific conditions but instead the resilience of timeless qualities—justice, equality, compassion, personal liberty and obligation, love. The resilience of Jewish holy text and tradition, which has survived unchanged for several millennia whereas larger, more established parallel traditions disappeared or changed into something unrecognizable, provides an example of this process in action. Identifying particular principles of society that we wish to protect from change, such as gender equality, is an eminently different project than considering resilience solely in terms of material and institutional changes.

Such a framing is almost guaranteed to lead to difficult choices, as it makes far more explicit the types of values we are trading off. Politically, such battles are currently being waged between those who want to maintain the sovereignty of personal choice in consumption, and those concerned with the ecological disruptions such a focus can create. Appeals to abstraction values at the expense of the actual experiences of individuals have been a feature of many of the atrocities of the past century, and such conversations need to be entered with care. Nevertheless, imagining resilience without explicit reference to time can be a good thought exercise for understanding what exactly it is we intend to preserve, and as a way to undermine false claims by economists and other parties to universally applicable metrics.

**DOES RESILIENCE NECESSARILY MEAN RESISTANCE TO CHANGE?**

The process of visualizing resilience in a conceptual space, rather than through immediate physical outcomes or institutional longevity, opens the door to rich traditions that invert the entire concept of resilience as resistance to change. The concept of non-attachment has provided the foundation for numerous spiritual traditions, from Buddhism to the classical stoics. Such non-attachment can apply beyond an individual’s experience of reality with implications for practical alternatives for social resilience. The resilience of the herding and horticultural societies that covered the vast majority of human social history was rooted in rootlessness; overgrazing, weather anomalies, and other threats could be handled simply by moving to a new area that didn’t face those problems. Historically, these models of resilience depended on limited populations and significant amounts of open land—the opposite of the situation most of humanity faces today.

The economic mobility afforded in the United States by its shared cultural and linguistic roots provides one form of social resilience dramatically different from the visions of resilience offered by proponents of deep localization. Some of the worst conditions on earth are currently found in refugee camps and massive urban slums—transition areas where those forced into mobility meet the institutional walls of nation-states or established visions of urban development. In these cases, those running from war, drought, or blight would experience eminently greater resilience if society was designed to accommodate their mobility—the Chinese system of city-based residence is often pointed to as the primary cause of the misery of its migrant population. For a group of people whose personal resilience or lifestyle is bolstered by setting clear limits to outside access, the question of whether mobility improves resilience becomes one of where they decide to draw the boundaries of the society in question.

Mobility-based resilience versus place-based resilience may become one of the defining conflicts of the coming years, particularly if weather or energy access becomes more volatile. While immigration has long been a political flashpoint, the rising tide of anti-immigrant parties in Europe provide a powerful example
of what happens when one vision of social resilience (and one vision of what defines society) comes into direct conflict with the resilience response (in this case, mobility) of a group beyond that society’s existential borders.

**MANY PATHS**

The way people address the questions proposed in this essay will critically affect the visions and solutions they will propose, and, more importantly, be able to see. A quick browse through Bloomberg news’s “Sustainability” section or any major policy publication on environmental issues will reveal this process at work—massive solar farms, soaring vertical greenhouses powered by the latest optical technology, smartgrids undoubtedly chock full of rare earth minerals mined on the other side of the world. Capital-intensive, technology-driven, and demanding of ever more specialized labor, these visions spring directly from an underlying value judgment of what needs to be saved. Most likely in the case of anyone in the orbit of mainstream powers, solutions that maintain their privilege and narrative will be included prominently in any proposed future order. For the elite in poorer countries, building out the industrial infrastructure to respond to oncoming climate, hydrologic, and agricultural threats will likely trump more abstract questions of preserving the global ecological commons because, as concerns the resilience of their immediate population within a given social order, doing so is most effective. Alternatively, amongst groups that chafe at the assumptions, impacts, and distributions of the current social order, concepts like localization, independent eco-communities, and de-specialized household production attempt to make resilient a set of values incompatible with current power structures, as part of a project that appeals to general resilience, but specifically seeks to overturn a number of existing social paradigms, with implications for redistributions of power, comfort, and privilege that even proponents may not fully want to face.

All of these camps will argue that their path is the only way to realistically face the coming challenges—in other words, to make our societies more resilient. All may be right, for the vision of what it is they want to preserve. There may be ways to preserve access to current convenience lifestyles for a small fraction of the world (at least, an even smaller fraction than those currently enjoying them), or to resiliently feed nine billion people with ever more frantic industrial agricultural techniques at the expense of turning what remains of the natural world into an open strip mine. There may be unimagined technofixes (fusion comes to mind) that could make possible the continued growth now projected by mainstream economists.

“It is possible... to take an atemporal view of resilience, emphasizing not specific conditions but instead the resilience of timeless qualities—justice, equality, compassion, personal liberty and obligation, love.

A continued burst of population growth might elbow out what little remains of the natural world. Population displacement and eroding or non-existent public health and sanitation infrastructures will put us on a collision course with waves of new global pandemics.

Perhaps we may be able to create alternatives, eco-villages, transition towns, or other localized visions of life with limits on personal consumption and population growth. These communities will be unattractive to those wedded to a vision of the individual as king. And they may become enclaves open only to a small group of self-selected adherents, with strict and potentially violent limits to outsiders should they actually be the only viable alternative.

All of these visions of the future (and the steps we take toward them) bring with them different types of resilience, all dependent, in turn, on different visions of what it means to be human. I would propose that as we converse going forward, it is no longer enough to present the oncoming problems and jump to a favored solution with its bundle of attendant moral assumptions. While it may be convenient to ignore these assumptions for the purpose of pitching a bigger tent, they may also render the conversation meaningless. That our societies must become more resilient is obvious; how, why, and for whom are the harder questions we now must face.

Jake Bornstein is a Senior Associate with Slow Money, the non-profit organization that seeks to use a new, community-driven approach to finance and to support local, sustainable food enterprises. You can follow him on Twitter @JLBornstein.
It is important to cultivate a respectful and engaging approach to developing and maintaining relationships with indigenous cultures. I propose that two fields of inquiry, bioculturalism and stewardship, be considered together as *biocultural stewardship* in order to strengthen both. My main premise is that the dominant culture of a country or region bears more responsibility for creating relationships with indigenous cultures because of inherent power differentials, as well as histories of oppression and marginalization. However, it is arguably a matter of necessity at this point in human existence to move past the perceived barriers of culture toward more open and respectful relationships. It is critical to consider the complex and daunting challenges associated with sustainability issues from a variety of perspectives, including those of indigenous cultures. Biocultural stewardship provides a perspective on land use practices and governance that is culturally relevant to indigenous cultures and illuminates pathways for Western cultures to recognize the interdependence of people and nature. It fosters conditions for creating relationships with indigenous cultures to promote biological and cultural conservation and relearn indigenous understandings of alternative ways for humans to relate with the natural world.

**RELATING TO THE ENVIRONMENT**

Human beings are a product of evolution and experience the environment somatically, psychologically, cognitively, socially, and spiritually. According to Kellert, people respond to the environment from a blend of nine value stances.

During the evolution of our species, these values developed in response to environmental conditions and reflect our ability to adapt to different stressors and stimuli.

**Figure 1**

<table>
<thead>
<tr>
<th>Nine Value Stances Toward Nature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilitarian</td>
</tr>
<tr>
<td>Naturalistic</td>
</tr>
<tr>
<td>Ecologicist-Scientific</td>
</tr>
<tr>
<td>Aesthetic</td>
</tr>
<tr>
<td>Symbolic</td>
</tr>
<tr>
<td>Dominionistic</td>
</tr>
<tr>
<td>Humanistic</td>
</tr>
<tr>
<td>Moralistic</td>
</tr>
<tr>
<td>Negativistic</td>
</tr>
</tbody>
</table>

(Source: Kellert, *The Value of Life*)

Depending on circumstances, Kellert argues that people relate to the natural world from any blend of these value stances. However, people may tend to favor one or two value stances as their primary preference and base decisions and actions accordingly.
These value responses, individually and collectively expressed, play out through such behaviors.

Taking a co-evolutionary approach, Evanoff shifts the ethical focus from the human treatment of individual, static objects in nature to the causal relationships between interconnected events unfolding over time. Any event can have far-reaching implications throughout its associated complex of interacting events. Applying this approach to humans and nature, Evanoff “recognize[es] the extent to which cultural practices and natural processes interact with and co-adapt themselves to each other.”4 The co-evolutionary approach posits that nature and human interaction form a complex and fluid dynamic. Evanoff points out that “the implication for this view for human-nature interactions is that ethics must concern itself not simply with individual actions but rather with how these actions affect the relations individuals have with the larger biological systems with which they coevolve.”5 The perception of humans as superior in worth and function is transformed in the co-evolutionary approach to one in which all members of the biotic community—human, organic, and inorganic—are valued because of their intricate relationships. The co-evolutionary approach is analogous to Leopold’s land ethic as “it implies respect for his fellow-members, and also respect for the community as such.”6 Value is based upon the interaction between diverse members within the biotic community rather than economic or moral value.

Adoption of the co-evolutionary approach may be hampered by the perceived distance from nature that many modern humans maintain, which is exacerbated through technology. Humankind’s psychological distancing is thought to have originated with the development of agriculture and the domestication of animals, which began around ten thousand years ago in the Fertile Crescent of the Middle East.7 This transition was the establishment within the human psyche of domesticated and wild. According to Glendinning, “this was the purposeful separation of human existence from the rest of life: the domestication of the human species.”8 The shift to agriculture and animal husbandry transformed the human relationship to land. While nomadic hunter-gatherer societies relied on a direct and intimate interaction with nature, agrarian societies shifted their perspective of the land to an “other” to be worked for food yield in the domesticated realms or feared in the wild realms. The effects of the human capacity for “othering” ripple throughout human relationships with both the environment and people. Othering is used as justification for domination of the land, as well as people, often simultaneously. Colonialism, slavery, ethnic genocide, and highly destructive extraction practices are but a few examples of such othering at a cultural level.

According to Glendinning, Western culture is founded on the duality of tame versus wild. While this approach has enabled humanity to multiply, it assumes and relies on a position of dominance over both the environment and people. This shift is thought to have occurred gradually over the last ten thousand years and has been perpetuated by the hegemonies of Western culture, religion, and politics. As Glendinning states, “the human relationship to the natural world was gradually changed from one of respect for and participation in its elliptical wholeness to one of detachment, management, control, and finally domination.”9 In contrast to the Western approach, there are many indigenous cultures that retain a closer relationship with the land physically, psychologically, and spiritually. For example, the Mapuche of what is now Chile and Argentina and the Maori of what is now New Zealand both retain their cultural, physical, psychological, and spiritual connections with the land.

Despite culturally and religiously influenced distancing from nature within many Western cultures, many people maintained a fundamental relationship with nature through agrarian practices.10 People lived in close proximity to wildness and nature as daily existence was influenced by weather, direct access to water, growing or collecting food, and reliance upon animals for food, transportation, and labor. Nash refers to this as living in the wilderness condition, in which struggles for existence outweigh any consideration of the effects of human influence.11 While this condition is still the case for people at an elemental level, those
living in developed countries may not perceive of such a direct connection with nature.

With the advent of the Industrial Revolution, people in developed countries began to move into larger cities and both literally and metaphorically farther away from their natural state. For example, in the United States in 1900, 60 percent of the population lived in rural areas. By 1990, this number had shifted to 25 percent, with the trend continuing downward to 21 percent in 2000 and 16 percent in 2013. It became less necessary to look to nature as the direct source of sustenance or to deal directly with nature’s threats as more effective tools to control and manipulate the environment were developed. In post-modern societies, most people no longer hunt or grow food. For many, gardens are considered hobbies and hunting a sport. Protected from the elements, people in developed countries usually are only confronted by extremes that damage what has been built and controlled by people.

Physical distancing associated with the shift to agriculture and animal husbandry, along with the spiritual and cultural distancing encouraged by many Christian and secular leaders, contributed to a perversion of the psychological relationship that modern humans have with nature. The deep interconnection with the natural world that facilitates human participation as active members of the biotic community has been largely forgotten by modern people. Ecopsychology informs that this sense of “forgottenness” is the root of the generalized anxiety prevalent in developed countries.

In order reconcile the human versus nature dichotomy, it is necessary for Western thought to embrace Leopold’s conceptualization of community. For Leopold, human interconnection with nature is an essential aspect of the larger biotic community. Given the current disconnection of modern people from nature, it is necessary to first recognize the human interconnection with nature, and then go beyond recognition to embody it. Recognizing implies that interconnection is an abstract, intellectual experience requiring little or no responsibility to maintain. Conceptualized as such, recognition dissipates over time because it is not grounded in direct, lived experience. Embodying implies a deep, existential understanding of interconnection as a constant state of being. Experienced in this way, interconnectedness becomes the norm.

RECONCILIATION AND BICULTURALISM

Reconciliation comes through realignment of the values and ethics practiced by policy-makers, land owners, land management agencies, and individuals alike. Aldo Leopold’s “land ethic” is recognized as a key philosophical underpinning of Western environmental ethics and therefore is foundational to this realignment. The land ethic extends the concept of community to include the natural world by widening the scope of ethics to include the land itself. Prior to Leopold, the study of ethics in Western philosophy mainly considered the limits of community—and, therefore, moral consideration—to extend only to humans. The land ethic fundamentally challenged the Western perspective of the role of humans within the landscape, shifting that role “from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community.”

Leopold states:

This extension of ethics, so far studied only by philosophers, is actually a process in ecological evolution. Its sequence may be described in ecological as well as in philosophic terms. An ethic, ecologically, is a limitation on freedom action in the struggle for existence. An ethic, philosophically, is a differentiation of social from anti-social conduct. These are two definitions of one thing. The thing has its origin in the tendency of interdependent individuals or groups to evolve modes of co-operation. The ecologist calls this symbiosis. Politics and economics are advanced symbioses in which...
the original free-for-all competition has been replaced, in part, by co-operative mechanisms with an ethical content.15

By considering ecological principles alongside philosophical ethics, the land ethic demonstrates the role of humans as members of a larger biotic community. In contrast, throughout Western history, some members and leaders within Western cultures and religions have maintained that humans are the masters of the earth, thus leading to the expectation for humankind to exploit nature simply as a resource and a dumpsite.16 Leopold’s extension of ethics to include the biotic community presents a paradigm shift in Western thought. The application of ethics expands beyond the limits of humankind to include the natural world, thus establishing nature as morally considerable.17 The land ethic establishes a philosophical base to argue for the conservation and appropriate interaction with land based on intrinsic and other values beyond simply the economic benefits to humanity.

Western people’s perceived distancing from nature contributes to the dichotomous view of humans and the environment. Although there has been movement in Western thought toward a more holistic view of humanity’s relationship to nature as articulated by Leopold, Evanoff, and others, there is the question of how to actualize these ideals in a practical way. Biocultural stewardship may provide the necessary framework.

In contrast to the dichotomies outlined above, many indigenous people still live in close association with nature. Engaging with indigenous people may provide insight into alternative ways of co-existing with the environment that may be applied to modern cultures to help facilitate reconnection and embodied interconnection with nature. Equally important, conservation of biodiversity on native lands may be aided by understanding the nuances of indigenous communities’ interactions with the land.

Drawing on multiple generations of accumulated knowledge, indigenous people still claim a strong connection to land, possess a keen awareness of the local environment, and maintain the ability to adapt to changes within their environment.18 This intimate connection between people and land is foundational to indigenous communities. It is through culture that land and nature traditions are transmitted and given meaning to successive generations. Therefore, indigenous culture may be viewed as the repository for traditional ecological knowledge or the accumulated knowledge, practices, and beliefs of indigenous people that, combined, represent and determine a culture’s relationship to nature. As Berkes argues:

“Purely ecological aspects of tradition cannot be divorced from the social and spiritual. Stories and legends are part of culture and indigenous knowledge because they signify meaning. Such meaning and values are rooted in the land and closely related to a ‘sense of place.’”

It is important to avoid romanticizing indigenous cultures as made up of “ecologically noble savages” who interact with the natural world in harmony and balance. Evidence indicates that the social and cultural norms associated with living sustainably rely on low population density, abundant land, and the absence of a market economy. When these conditions are threatened, these groups often adapt unsustainable practices in order to survive.

“...The effects of the human capacity for ‘othering’ ripple throughout human relationships both with the environment and people.

Further, the image of the ecologically noble savage has largely been applied by outsiders who hold these cultures up as examples of what civilized people have “lost” in exchange for the technology and comforts of the modern world. Both the ideal of wilderness without human influence and the ecologically noble savage have been challenged in recent years as relying on a static, romanticized perception of either wilderness or indigenous people.20 Grande claims the image of noble savage is often called upon as a way of legitimizing the messages of some non-indigenous groups. Doing so further marginalizes indigenous people, especially when they do not live up to the romanticized ideal.

Indigenous ecological knowledge must not be viewed as a panacea to the wide range of eco-social issues encapsulated in the field of sustainability. Maragia contends that many pre-colonial indigenous cultures were plagued with a variety of social issues—such as gender inequality—and ecological issues—such as highly destructive farming methods—that are not, in fact, sustainable, ecologically or culturally.21 Such cultural and environmental practices persisted because of a widely dispersed human population.

Even in light of such criticism, traditional eco-
logical knowledge retains much value in addressing the complex issues associated with sustainability. In a study commissioned by the United Nations, researchers found that in four different countries in Africa, “where indigenous knowledge was ignored there has been a deterioration of the environment, leading to poverty.”

The indigenous systems of transferring ecological knowledge across generations effectively influenced communally managed land within these communities and the broader region. Recognizing the limitations of indigenous cultures, traditional ecologi-cal knowledge contributes to a broader understanding of the relationship of humans with nature and to shifting our collective eco-social ethic. Many indigenous cultures are marginalized and discounted as potential contributors to addressing the issues that often times affect them most directly. But from the fringes emerge opportunities.

FRINGE POTENTIAL

Ecologists have long argued that biological diversity is critical for the health of an ecosystem. Biological diversity maintains that natural ecosystems are more resilient and healthy when comprised of a multitude of interdependent species. Such diversity aids in maintaining an ecosystem, regardless of scale, by promoting interspecies niche development to perform the various eco-services needed within the biotic community. These ecological poly-cultures tend to make more efficient use of scarce resources through partitioning created through interspecies spatial differentiation. For example, the stratification of plant species within an area into canopy, understory, shrub, grasses, mosses, and lichens effectively captures energy from the sun by filling many of the possible niches. Meanwhile, nutrient cycles are structured to use and reuse limited resources, such as minerals and water, as different plants rely on different resources while reusing limited resources, such as minerals and water, as different plants rely on different resources while releasing bound-up nutrients that are then reused.

Since humankind is an expression of nature, this dynamic is repeated in human systems both physiologically and culturally. Physiologically, illnesses get passed around quickly within areas of dense population such as colleges, cities, and office buildings, as does a smile or a positive attitude. Culture, the expression of the cumulative values and norms of a people, is therefore the sociological library of the collective wisdom of society. It is through culture that the filters through which we interpret the world are established and maintained. It is also through exposure to other
cultures that we broaden our worldview by removing or reframing these filters. Additionally, cultural diversity ensures the full spectrum of human experience, and knowledge is maintained because “any reduction of language diversity diminishes the adaptational strength of our species because it lowers the pool of knowledge from which we can draw.”

In contrast, human created monocultures may not promote ecological or cultural health or abundance. For example, in the United States, monoculture food choices represented by fast food establishments dominate the urban landscapes. Consumers can find the same products distributed in cloned environments designed to provide a consistent experience. This is also reflected in farming techniques comprised of large-scale, monoculture-based agribusinesses and meat factories requiring high levels of petroleum-based inputs in order to maintain production levels and transportation to distant markets. Meanwhile, local restaurants serving unique and local fare are often off the beaten path, and organic farming techniques are considered fringe, although they are growing in popularity, supposedly because of the quality of the food.

It is important to avoid romanticizing indigenous cultures as “ecologically noble savages” who interact with the natural world in harmony and balance. It is within the fringes that diversity takes root. Fringes, in ecological terms, are the margin between one ecosystem and another. In these edges biodiversity flourishes because of the blending effect between multiple ecosystems produces niche opportunities for species that cannot thrive in the bordering ecosystems. This is also where the greatest density of fruit tends to occur in part due to the increased efficiency of resource use. Consider the bank of a mountain stream. Two distinct ecosystems interact at the edge: the aquatic and the terrestrial. But there is also a third ecosystem that only exists at the interface of the two. Mosses and ferns along with a host of other plants and animals exist in this narrow zone. Such margins attract animals seeking both water and food. As the animals move away from the stream, they take with them energy stores and genetic material for further distribution.

Cultural edges may function in much the same way. It is here that knowledge, technology, and beliefs may be shared, resulting in an increased resil-
iciency, flexibility, and adaptive capacity for those participating. It is important to note that cultural edges are more complex than the defined boundaries of a mountain stream. Instead, they are better viewed as “processes of interchange” that may involve community gatherings or social media based on interests and perspectives, rather than geographic proximity. When successful, these zones promote interaction between various individuals and groups in which new ways of being and knowing may be considered by seemingly disparate individuals and groups.

In the post-modern world, indigenous cultures may occupy such an edge. Either the indigenous people are so marginalized as to only exist on the edge, or the communities are insular except where they bump up against the dominant culture. Either way, an opportunity exists in the overlap between the indigenous and dominant communities. Industrialization and urbanization, often imposed through political and corporate colonialism, are more likely to promote homogenization of perspectives toward a monoculture of humanity, rather than the poly-cultures needed to maintain cultural diversity. Indigenous cultures and their rich linguistic tapestry have suffered along with the biological communities with which they co-evolved. Maffi points out that “all three diversities [cultural, linguistic, and biological] are under threat by some of the same forces . . . that loss of diversity at all levels spells dramatic consequences for humanity and the earth.”

Indeed, these cultures are largely marginalized and exploited while possibly contributing unique perspectives on many global challenges that humanity faces.

Cultural stewardship fosters an intimate connection to both nature and community. “It is about the exercise of moral and civic responsibility to protect, restore, conserve, and prudently use the earth’s ecosystems and all that they sustain.” The essence of stewardship maintains that humankind must be responsible caretakers of the earth. Whether divinely mandated or issue-based, the stewardship approach requires a conservative approach to extraction and use of resources in order to maintain natural systems in a healthy, resilient state. Stewardship recognizes human interdependence upon natural systems and seeks to care for resources to promote abundance for societal needs as well as the natural systems upon which society depends. Leopold clearly states this imperative when he states “a thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.” Changing the word biotic to biocultural may reflect the current direction of thought regarding this dimension of environmental ethics because it better articulates the broader application of community Leopold conceptualized in the land ethic.

Moving toward a stewardship frame of reference in regard to both the environment and culture could be considered a viable means of healing the wounds we have inflicted upon ourselves and nature because it embodies the environment and the cultures nested within. It is a way of interacting with the natural and cultural environments that respects members of both communities and values the co-evolutional aspect of their interaction. In relation to the environment, this may include restrictions on the use of natural resources. Relative to culture, this includes resisting the propensity to homogenize or destroy other cultures, instead promoting engagement with these cultures in meaningfully beneficial ways. Finally, it includes valuing and balancing traditional ecological knowledge with scientific knowledge and inquiry.

Biocultural stewardship

Connecting bioculturalism and stewardship strengthens both. Biocultural stewardship is based upon the intricate and intangible connection between culture and environment. It is an ethically based interaction with the natural and cultural environment that respects all members of both communities and values the co-evolutional aspect of their interaction. Stewardship is an ancient concept based either on religious or spiritual beliefs or on societal norms and expectations. Bioculturalism is a fairly recent bridge between biological and cultural diversity issues that focuses on exploring the intricate dance between culture and land.

Blending these two concepts provokes some interesting questions. Who stewards a particular biocultural hotspot? Is it purely internal to the indigenous culture that occupies and embodies the land, or is it necessary to impose stewardship from without? Is it a...
collaborative function between multiple levels of government, non-governmental organizations, and indigenous cultures? Are traditional practices that are not sustainable overlooked because of their place within a culture, or is it appropriate to prescribe changes to tradition? Of critical importance in each of these questions is how knowledge is developed and utilized.

The Western approach is to use the scientific method, in which a problem is approached mechanistically, while indigenous cultures tend to rely on knowledge accumulated through direct, intimate interaction with the natural world in a more holistic way. The application of scientific knowledge and traditional ecological knowledge need not be mutually exclusive approaches. The primary differences between these two approaches to attainment of knowledge are the timeline and intimacy with which which is being contemplated. Whereas scientific study may last several years, traditional ecological knowledge is passed to successive generations as a method of ensuring the success of a given people in relation to their land—the ultimate longitudinal study. Scientific study is intentionally designed to keep the researcher distant from the subject in order to take apart a problem and analyze the component pieces. Building traditional ecological knowledge is a much more intimate, multigenerational relationship, relying on environmental consciousness in the experience of everyday living and direct interaction. Neither way of knowing is “better” than the other. Both have value in constructing knowledge and informing decisions regarding how best to interact with the environment and community. As Leopold established in his land ethic, in order to manage the land toward health and resiliency, we must know the land intimately and scientifically.

Combining scientific knowledge with traditional ecological knowledge through stewardship may be a bridge that acknowledges the value of both. Biocultural stewardship provides a framework to guide actions when engaging with indigenous cultures and nature. It is founded on a commitment by all stakeholders to actively participate in the process by integrating new and ancient ways of learning and knowing to address issues that challenge both indigenous and post-modern cultures. Maintaining the ecological health of bioregions to promote abundance is accomplished by engaging with the knowledge of those most intimately connected with an environment. In relation to culture, it means recognizing and respecting the rights and integrity of indigenous cultures to develop through their respective stages and to allow the necessary access to nature needed to sustain them. It also includes engaging in fair practices with indigenous cultures regarding traditional ecological knowledge that may be used for commercial purposes. Biocultural stewardship includes the valuation of traditional ecological knowledge balanced with scientific knowledge. It requires that the indigenous culture engage with outsiders and integrate scientifically based knowledge into its traditional practices. In such cases, indigenous peoples must be willing to integrate such findings into their environmental practices.

**Biocultural Stewardship in Practice**

In 2005 Loh and Harmon created the Index of Biocultural Diversity (IBCD) by combining calculations of biodiversity with calculations of cultural diversity into one model. The IBCD model calculates biocultural diversity by country and takes into account both land area and population. The results of this process identified three major areas of the world with the highest biocultural diversity: the Amazon Basin, Central Africa, and Indonesia. It also identified the four most bioculturally diverse countries as Papua New Guinea, Indonesia, Cameroon, and Columbia. This model could be applied within countries as well to identify specific regions that are threatened and in need of biocultural stewardship. Such areas could be considered biocultural hotspots containing high densities of both biodiversity and cultural diversity.

Who stewards biocultural hotspots? Does it rest solely on indigenous cultures, or is it necessary to institute policies at a variety of levels to ensure protection? Due to the marginalization of many of these indigenous cultures, it is not practical for them to exercise power to achieve recognition, much less policy change. In order to support biocultural stewardship, it is necessary to bolster support for these regions though a variety of political, educational, and non-governmental methods. To understand more clearly how biocultural stewardship may contribute to the sustainability of an eco-social community, compare the experiences of the Mapuche in Chile with that of the Maori in New Zealand. These two indigenous cultures are generalized in order to highlight the characteristics of biocultural stewardship. By generalizing, I recognize that voices within these communities would disagree.
with my basic analysis. This is not an attempt to essentialize these cultures; rather, it is necessary to draw attention to specific aspects of biocultural stewardship.

The Mapuche people of Chile are the largest indigenous tribe, representing 95 percent of the indigenous population and comprising 4.7 percent of the overall population. From 1530-1810, as their lands became more settled by progressive waves of Spanish conquistadors, they were marginalized, assimilated, or destroyed. Since the creation of what is now Chile in 1820, the Mapuche have continued to be marginalized, disenfranchised, and driven from their homelands. This began to change in 1993 with the signing of the Indigenous Peoples Act, which recognized the rights of indigenous peoples and signaled within the Chilean government the intention to enter into a new relationship with the Mapuche. However, this new relationship has been more difficult in practice than on paper and has had only marginal success. This recognition has only recently gained momentum with the ratification of Convention 169 of the International Labor Organization by the Chilean government in 2008. At its core, this international convention supports the rights of indigenous people to consultation, property, and self-determination.36

The modern history of the Mapuche has been and continues to be a constant struggle for recognition of land rights granted by the Chilean government in principle but not supported in practice. A land governance policy that is particularly antithetical to this endeavor is the designation of Private Protected Areas (PPAs). Most PPAs are managed by international or national forestry interests or mineral interests, while some PPAs are managed by NGOs concerned with the conservation of biodiversity in a pristine wilderness state. The result is the creation of huge tracts of land that are inaccessible to the Mapuche regardless of their traditional subsistence uses and cultural significance. PPAs have created a patchwork of accessible and inaccessible lands. While it is feasible for the Mapuche to create their own indigenous parks under the PPA regulations, typically they do not have the financial resources to create them, much less to support them long term. Additionally, the Mapuche are intentionally and consistently isolated from the political and decision-making processes that ultimately result in further marginalization. The outcome is a tense and volatile relationship between companies, government officials, non-indigenous farmers, squatters, and the Mapuche.37 In this case, biocultural stewardship is not possible due to the lack of support, trust, or cooperation at any level.

Contrast this with the experiences of the Maori in New Zealand who, at multiple levels within New Zealand’s government, possess influence that defends and supports their way of life. This is based upon a strong, internally created vision of the future of this culture and a commitment to creating programs and opportunities for the Maori people to maintain pride in their culture while recognizing the influence of the rising “Westernizing” tide. These include the creation of community- and regional-level strategic plans that seek to validate and celebrate Maori culture, use of traditional Maori knowledge in research, and the capture of Maori knowledge utilizing forms traditional to Maori culture, as well as more contemporary scientific and technological approaches such as GIS mapping and the use of environmental indicators based on Maori knowledge to assess environmental change. This is a good example of the use of traditional ecological knowledge paired with scientific knowledge to address local and regional issues. The success of these programs relies on the recognition that indigenous groups must work within the confines of a system they did not create, balanced in a way that assures their cultural identity is not compromised as they fight to preserve it. In these ways, the Maori have teamed up with the globalized government of New Zealand, rather than fighting against it.38 In this case, biocultural stewardship is evident at a multitude of levels.

**CHARACTERISTICS OF BIOCULTURAL STEWARDSHIP**

Comparing the Mapuche and the Maori brings into stark relief three critical aspects of biocultural stewardship: cultural self-determination, blended knowledge, and political engagement. While discussed independently, these three characteristics are recognized as being highly entangled. First, an indigenous group must have the capacity for self-determination or articulating the identity of the group in relationship to their...
land and other cultures. Both the Mapuche and the Maori articulate their cultural identities; however, the Maori have integrated their story with the dominant culture, while the Mapuche identity is articulated in spite of the dominant culture. The result is little public or political support for the Mapuche, while the Maori are more integrated into the system and attempt to work within that framework while providing value to the larger culture.

A second aspect is blended knowledge or the integration of old and new ways of creating and utilizing knowledge. While the Mapuche are severely excluded from this process, the Maori are contributing to the broader society by offering their particular experience and expertise to the issues. This is especially prevalent in the integration of Maori concepts into the study of environmental indicators to track larger climate change issues. Being able to tap into the longer timeline of the Maori in examining these changes provides a much broader understanding of the issue and, equally important, an alternative view on how to address these challenges.

Third, the ability to navigate and engage with the political environment in order to be heard is critical. Simply put, the Mapuche are voiceless and have no representation at any level of government. The Maori, on the other hand, are empowered by their ability to engage with and contribute to the system they live within. This took effort on the part of the Maori people as well as the local and national governments.

As braided rope is stronger than each of the individual strands, biocultural stewardship is strengthened by the intermingling of cultural self-determination, blended knowledge, and political engagement. Each of these concepts is important in its own way but limited when operating independently. However, when considered in concert, their strength is unified and amplified because each informs and bolsters the others.

The comparison of the Mapuche and Maori experiences reveals that an indigenous culture’s struggle to engage with the dominant culture oftentimes is mired in violence. The Mapuche are a good example of this situation. As they struggle to assert their identity and claim their associated rights, they are consistently met with resistance culturally and politically, prompting violence from both sides. Until the question of legitimacy claimed by the Mapuche is addressed, violence will likely continue to occur and possibly escalate. Biocultural stewardship seeks to engage in dialogue and community action before reaching the threshold of violence.

A similar model exists on the international stage. The value of biocultural diversity is articulated in a variety of international agreements ranging from the Rio Declaration on Environment and Development 1992, Agenda 21, the Earth Charter, and the United Nations Environment Programme. However, these statements of support for bioculturalism do not necessarily translate to local, regional, or national support or policies. To address this gap, the United Nations Environment Programme established the Biocultural Community Protocols in 2009. The protocol process is intended to create culturally specific rules for engaging with indigenous people, moving toward the objective of maintaining biocultural diversity. It also provides a process for supporting development in conjunction with external stakeholders where appropriate. The intent of the biocultural community protocols is to further amplify the call from indigenous peoples and local communities to be affirmed with international and national legal frameworks as custodians of their landscapes and to enjoy secure rights to manage their territories, natural resources, and traditional knowledge, innovations, and practices according to their values and customary laws.

As indicated in Figure 2, biocultural stewardship reduces these components to three interrelated aspects: self-determination, blended knowledge, and political engagement.

### Figure 2

<table>
<thead>
<tr>
<th><strong>Biocultural Stewardship</strong></th>
<th><strong>Bio-Cultural Community Protocols</strong> (based on Baviot &amp; Jonas, eds.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self-determination</strong></td>
<td>A self-definition of the group, its leadership structure, and decision making processes</td>
</tr>
<tr>
<td><strong>Blended Knowledge</strong></td>
<td>How they promote conservation and sustainable use of their natural resources</td>
</tr>
<tr>
<td></td>
<td>Links between customary laws and bi-cultural ways of life</td>
</tr>
<tr>
<td></td>
<td>Their spiritual understanding of nature</td>
</tr>
<tr>
<td></td>
<td>How they share their knowledge</td>
</tr>
<tr>
<td></td>
<td>What constitutes free, prior and informed consent to access their lands and traditional knowledge</td>
</tr>
<tr>
<td><strong>Political Engagement</strong></td>
<td>Their local challenges</td>
</tr>
<tr>
<td></td>
<td>Their rights according to national and international law</td>
</tr>
<tr>
<td></td>
<td>A call to various stakeholders for respect of their customary laws, their community protocol, and a statement of the various types of assistance needed by the community.</td>
</tr>
</tbody>
</table>
digienous cultures with whom they work. This may be necessary in order to translate cultural norms into the legal terminology needed to engage in the international political arena. While it is recognized that the dominant culture must be involved and may actually need to initiate such a process, the ultimate product must be held and valued by the indigenous culture.

CONCLUSIONS

In order for modern people to live more sustainably, it is necessary for their relationship to the natural world to shift from a perspective of being separate from and superior to nature to one of being in an embodied interconnection with nature. Equally important, it is necessary to conserve the remaining biocultural hotspots of the world in order to maintain both biological diversity and cultural diversity. Biocultural stewardship may facilitate both.

A fundamental assumption in the worldview of contemporary Western ethics holds that nature is subservient to humans. Thus, moral consideration does not extend beyond humans, allowing the perception that humans are separate from and superior to nature. The perception of distance from the environment permits and in some ways encourages maladaptive responses to nature that may be used to justify destructive practices. Such practices will continue until the paradigm of separateness is recognized as flawed and a deeply embodied interrelationship with the biotic community is fostered and embraced.

Leopold’s land ethic is rooted in his understanding of an expanded concept of community that includes all life and all things that support life. The land ethic is fundamental to biocultural stewardship because Leopold argues for the extension of moral consideration to include the natural environment and seeks to reorient human interaction to that of a member of the biotic community rather than master of the environment. Biocultural stewardship may facilitate the needed healing for the transmutation in Western thought to more fully occur by providing insight into alternative ways of interacting with nature that are grounded in embodied interconnection with nature.

Biocultural stewardship aids indigenous people by exploring and establishing culturally relevant land governance practices that recognize and support preserving biocultural diversity. It serves as a template for engaging with indigenous cultures in respectful and meaningful ways. Cultural self-determination, blended knowledge, and political engagement play equally important roles in creating biocultural stewardship. Biological stewardship considers the interplay between the economic, ecological, and cultural dimensions and provides a method to involve both traditional ecological knowledge and scientific knowledge in the pursuit of viable, practical, and sustainable solutions to the complex problems that indigenous and post-modern cultures now face.

NOTES
4. Ibid., 57.
5. Ibid., 59-60.
8. Glendinning, My Name Is Chellis and I’m in Recovery from Western Civilization, 71.
9. Ibid.
14. Leopold, A Sand County Almanac and Sketches Here and There, 204.
15. Ibid., 202.


31. Leopold, A Sand County Almanac and Sketches Here and There, 225.


People are afraid to merge on freeways in Los Angeles. This is the first thing that I hear when I come back to the city . . . Though this sentence shouldn’t bother me, it stays in my mind for an uncomfortably long time.

--Bret Easton Ellis, Less Than Zero

Heaven and Hell are just one breath away!
--a painting by Andy Warhol

BEING AN URBAN CITIZEN

Clay, the main protagonist of the novel Less Than Zero, is a native of a Godless Los Angeles and has been painted by Bret Easton Ellis as an example of the ills of urban excess—young, bored, over-privileged, well-connected, and a social deviant. We must merge at some point, interact with other city inhabitants, and then retire to our urban bunkers for shelter from the madness. It must be acknowledged that Clay is but one possible archetype of an urban citizen. This Clay of Bel Air does not live the same life or possess the same life chances as a young kid living in “white flighted” Echo Park, Los Angeles. These kids are one with the city organism. Clay and the young kid from Echo Park share different lived realities as city dwellers. Each must find his own survival tactic. But each is a product of the at times forgiving, yet often constraining complex forces that beset an urban citizen.

Milgram’s idea of a Small World ties everyone in the world into a network separated by six degrees. You could possibly have connections in Washington Heights, St. Paul, and a colonias in Mexico City. Our connections may be only around 3.74 hops away, as most people on this planet are strapped to a Twitter and Facebook account like an oxygen mask.

But technology cannot solely overcome spatial proximity and intimacy and the need for human and social capital among urban dwellers. Our modern world may shrink due to common interest while the physical and emotional resources necessary to house us become more and more constrained. Such constraints can place undue burden on the state of health among urban dwellers. Community is ingrained for some. For others, they live only in a zip code.

Figure 1: Metro North commuter train landing, Cold Spring, NY, 2010

...intimacy with nature for the most part has to be created and dedicated for common use within a city.
PREMIUM PLACED ON GREEN SPACE VERSUS URBAN MYSTIQUE

Take for instance Cold Spring, New York. North of New York City, in the Hudson Valley, it could be called a semi-urban exurb. I would surmise that the year-round inhabitants want no part of Wal-Mart or “McMansions” and have kept it free of these things for good reason. The “Gap” (Figure 1) is quite evident between Cold Spring, a very intimate hamlet that includes both non-conformists (mostly from the Super Creative and Creative Classes described by Florida) who seek year-round tranquility, space, and astronomically high-priced organic tangerines, and those who live most of the time in New York City amid noise, “urban huddle,” and also highly priced run-of-the-mill tangerines.

The air in Cold Spring is ripe and healthful. Cold Springers working in New York City, as well as week-enders fleeing it, jump on Metro North and begin their vinyasas as they enter the Valley. Green space is available in Cold Spring without much effort: one only has to look outside his door for nature. Even the town center is a place of intimate community. Having your own plot of land is part of being a Cold Springer. Green is in Cold Spring’s DNA.

Green spaces such as the ones in the photos below serve many important uses: recreational, aesthetic, and ecological. Why should we make provisions to keep cities green? Cities are known for concrete edifices, technological advancement, and a fast pace. By definition, such intimacy with nature for the most part has to be created and dedicated for common use within a city. Maas and colleagues found that in a Dutch city, there was indeed a positive relationship between having green space and more positive perceptions of health. This relationship was even more pronounced for the urban poor in that study. So those dahlias in the community garden are important to all of us.

The photo in Figure 2 was taken from my friend’s Brooklyn walk-up kitchen window. It was a vast sea of greenery, with collective gardens and space maintained by certain inhabitants of the duplex. It brought my intention to my breath. I loved the shops and vibrancy of Brooklyn. But places such as this garden illustrate the efforts undertaken by those in the urban center to recapture some organic sources of oxygen.
Sometimes a city makes a pointed effort to create green where the people are. New York City is a great example of this movement. Outside of the Brooklyn Museum, the green space shown in Figure 3 is maintained by the city for use as a reading space, a place to congregate, and a reminder to slow down before entering the city streets again on the trek to the subway.

IS THE SOLUTION FOUND IN COMMUNE “E-TOPIAS”?

How can cities bring green into the daily lives of their dwellers? The “e-topias” advocated by William Mitchell of MIT call for all in one place to both live and work. As a cultural incubator, this would call one to act as a citizen within a designated space. W. Rossler notes the importance of creating social contracts (in his short video, “Creation of Social Contracts”) in providing space for each individual to share experiences. These “e-topias” may solve the concerns of making daily needs and resources closer and available. But I take pause. Would these green and living spaces of the “e-topias” be based on a sense of collective, limited ownership (such as restricted use of gardens in London)? Such a proposition may greatly hamper social innovation and a sense of larger community outside of its polis walls. It may also strip the urban cultural character, promoting an unappealingly faint Silly Putty version of a city, lacking diversity.

It is quite possible the aggregate benefit of “e-topias” may be offset by increased social and health disparities among those without access. Also, where will the poor and aged live while their homes are razed to make room for this innovation? Will there be a parity of access to these new communities regardless of income? But urban centers such as Brooklyn somehow “became cool.” To Zukin, the realness of urban culture becomes synonymous with “authenticity” to a vision of Brooklyn that does not pander to the wishes of outsiders. The grittiness and lack of organic green sources made way for colorful motifs of strength on the sides of tenements and upstart trendy centers bringing creative culture to the area. Cities need cultural and economic growth for the benefit of all of their citizens in order to exist and thrive. What is the social cost of being considered “cool,” particularly for the most disenfranchised?

Michele Battle-Fisher is an Instructor of Community Health at the Wright State University Boonshoft School of Medicine. She is the Founder of Orgcomplexity, a think tank that utilizes systems science to unmask the complexity of health care. A version of this essay originally appeared on the blog Orgcomplexity (http://orgcomplexity.wordpress.com). All photos © 2013 Michele Battle-Fisher.

NOTES
11. Zuzin, Naked City.
According to noted biologist and long-time primatologist Robert Sapolsky, the past two decades have seen a complete revolution in our understanding of human nature. This view is supported by the pioneering work of Jane Goodall and Frans de Waal. Yes, I said “human” nature, not just the nature of other primates. What we have learned is still sinking in, and we know that new knowledge can take decades to be integrated into our highly educated circles, let alone popular human culture.

Through studying other primates we have learned that they are not nearly as different from us as we had believed. Human societies are actually not so different from the societies of our primate cousins. Non-human primates have been shown to transmit large amounts of information and culture to their children and future generations, and to have that culture perpetuated and sometimes spread to other communities. Non-human primates are aware that other individuals in their group have their own distinct needs and identities.

Non-human primates have empathy and the potential for great kindness. They are capable of incredible visual-spatial memory, complex negotiations, and the performance of intricate tasks, including the acquisition and teaching of sign language. And non-human primates are also capable of enormous viciousness and even orchestrated warfare. As we have looked into the eyes of our primate cousins, we have seen ourselves.

This realization holds a powerful lesson for sustainability. It also raises the uncomfortable notion that much of the content of our human intellectual (civilized) world is window-dressing for our primate drives and needs. To be sure, we use more abstract concepts and images, and our communications, technologies, and social structures are far more complex, but the actual content of our relationships may be far more similar to the content observed in the relationships of apes than we have been able to admit to ourselves.

Indeed, most of what we call our modern lives (e.g., career, social status, and self-identity) may be based upon what we see in other primates—securing access to food and shelter, sex, and social ranking, including alliances and rivalries. Our complex, concept-saturated world of abstractions may have the same foundation as most other species, rather than any unique dimension of humanness or human genius. When we view our species in the light of our troubling inability to redirect our voracious appetites for consuming planetary resources, we may not see ourselves as so much more “intelligent” than our primate cousins.

Maslow’s Hierarchy of Human Needs acknowledges the importance of basic needs such as food, shelter, water, and mating, but may have grossly exaggerated the importance of “self-actualization.” In our obsession with individual freedom, especially in the United States, we may have disabled the sense of social responsibility and group membership that is so prominent in other primates. Of course, there are differences among human cultures around the world, and different cultures seem to reach different balances between individual rights and responsibility.

By the 1950s, the human race was experimenting with the systematic application of rational thought to all aspects of our society and our world. Even among the founders of Cybernetics and Systems Thinking, we find social scientists like Gregory Bateson and Margaret Mead. Their contribution was often to insist that all systems thinking include an awareness of our observer bias. More recently, Frans de Waal has referred to a cultural bias that presupposes that humans are the pinnacle of evolution, coining the term anthropomorphophobia. We are literally afraid of our similarities to other species. It is as if recognizing empathy...

**SUSTAINABILITY’S SOURCE IN HUMAN NATURE**

By Earon S. Davis
thing to help it survive and prosper.

Motivation to live sustainably is there, in our primate genes. The problem is that without understanding our primate nature, we have created cultures and expectations that undermine our sustainability while seeming to support it. While humans seem to crave simplicity, this may represent a change of pace, a respite from our “work hard; play hard” lives. When we are rested, we appear to be drawn to complexity in all imaginable forms. We create vastly complex social structures, economic systems, technology, ideology, and religion that keep us entertained and occupied. However, our frenzy can easily lead us to extremes: competition and conflict.

It is in our nature to monkey with everything at our disposal. In the process, we invent and create. Our egos convince us that we know everything we need to know, so we are constantly reinventing ourselves and our realities, barely aware of the constant human-created gauntlet of unintended consequences we face in our individual and collective lives. This bias of ours—our inability to be patient while unintended consequences, when magnified to a global scale, are studied and evaluated—helps explain both our tremendous productivity and our danger.

Population and resource pressures have resulted in increased exploitation of precious resources and cheap labor. At the same time, literacy and education have facilitated cultures increasingly adept at incentivizing more and more complexity and distraction. The human urge to reproduce has declined in educated cultures, as have male sperm counts. Is heterosexuality less compelling a lifestyle in an endangered world? Depression and alienation have manifested in huge proportions in the developed world, as we increasingly experience life as a species that has lost its way.

Sustainability, at some point, requires observing reality in a clearheaded, unbiased manner. Instead, we seem to be constantly inventing new realities and mobilizing exciting “solutions” (such as “Green Busi-
ness”) that stimulate our imaginations and cultivate aspirations and fantasies of fame, power, and wealth. In fact, there are ecological limits to our expansionism and to our predilections for complexity and consuming resources. With global climate warming and disruptions and the increasing domestication of humans in cities and corporations, we seem to have made a societal wrong turn. While these trends have a long history, we seem to have sped up the discounting and devaluation of our nature as humans. Instead of working within our nature, we distracted ourselves with implanted cultural assumptions of human perfectibility, if not divinity.

Excessive complexity has fueled addictions, including over-production and over-consumption of consumer goods. We have tinkered with our environment and our food supplies in ways that cause illness and obesity and imperil our future. Our blind spots are cultivated and reinforced by magical beliefs in the invisible hand of “free markets” that protect our long-term sustainability at every phase of technological advancement. Some of us believe that a supreme being will intervene to prevent our irrational societal actions from bringing us harm. With these cultural myths firmly rooted in the ideology of our economic and political systems, we have long been prone to self-destructive collective behavior. However, they have increasingly become cemented into our culture by powerful social forces acting out of their distinctly un-enlightened self-interests.

I must pause to ask whether our increasing global obsession with economic and business efficiency over the past forty years has been our undoing. We have been experiencing a consistent, ideological rejection of the basic sciences, the social sciences, the literature and creative arts that encourage our contemplative and altruistic nature. Instead, we have pursued a course that engages and inspires the competitive, organizationally complex, and greedy side of our nature. Our “developed” lives have become more and more technologically driven, sedentary, and self-absorbed, while we exercise compulsively, consume all manner of stuff, and take anti-depressants in order to feel human.

Of course, there are simple things that we can all do to address many of these challenges. The good news is that we have everything we need to live more compassionate and meaningful lives. Much of it is hidden in plain sight. The challenge is to bring these qualities back into our culture. People in the United States, in particular, need to continue reaching out to other, less damaged human cultures in order to revitalize our own. Cultural shifts and changes require “in vivo” infusions of passion and knowing more than “in vitro” intellectualism.

So now it is time to return from our abstracted, synthetic human “reality” to our living ecosystems here on this wonderful planet. It is time to embrace our primate nature and joyously develop cultures that support and sustain us rather than over-stimulate and over-stress us. We humans, especially in the United States, have abducted ourselves from our natural world. Stuck in the self-made exceptionalist prison of a dysfunctional culture, we have become a self-incarcerated nation on a journey to oblivion. It is time to return to earth, to ground ourselves in the amply complex reality and nature of this planet. We must do this before it is too late.

Earon S. Davis is a teacher of sustainability and resilience. He works with individuals, groups, and organizations to promote value-driven strategic/systems analysis, based upon intercultural and partnership models of cooperation. He is an adjunct instructor at Indiana University in Bloomington.
Minding nature

some mild, some menacing, thunder across the land and fill the sky. The dinosaurs enjoy a long run, commanding Earth’s stage for more than four hours, until a monstrous meteorite, landing in the Gulf of Mexico, makes the climate too cold and ends their reign.

By the late afternoon and evening on Saturday, mammals, furry, warm-blooded, and able to withstand a cooler world, flourish and evolve until, just a few minutes before midnight on that final night of the week, Homo sapiens walks erect on two legs and learns to speak, use fire, and create increasingly complex forms of organization.

Only about 10,000 years ago in real time, less than two seconds before midnight in our metaphor, humans develop agriculture and start building cities. At a third of a second before midnight, Buddha is born; at a quarter of a second, Christ.

Only a thirtieth of a second before midnight, we launch the Industrial Revolution, and after World War II—perhaps a hundredth of a second before midnight in our week of creation, on the final night—the age of consumerism, the age of stuff, begins.

In that hundredth of a second, Brower and others have pointed out, we have managed to consume more resources than did all human beings all together in all of previous history. We have diminished our soil, fisheries, fossil fuels, and who knows what other resources by half. We have caused the extinction of countless other species, and we have changed the climate.

Think about it; try to grasp in your mind what it means that we have done all of this in the blink of the geological eye.

There are people, Brower went on to say, who believe that what we have been doing for that last one-hundredth of a second can go on indefinitely. If they even consider the issue, they believe, without evidence, that application of new technologies will allow our continued hyper-exploitation of the planet’s resources.

They are considered normal, reasonable, intelli-
gent people; indeed, they run our corporations and our governments. But in reality, they are stark raving mad. It will be hard to change their minds and hard to change our behaviors, but not nearly as hard as it would be to change the laws of physics or find other habitable planets to exploit. We simply can’t grow on like this.

Already, our “ecological footprint” is well in excess of what is sustainable for future generations. The limits suggested by Brower and others often call forth a sense of “gloom and doom,” a sense that sacrifices for the sake of the biosphere will mean lives of poverty and misery for all. But the good news is that the world doesn’t have to continue the same patterns of economic growth to attain high levels of human well-being and happiness.

The relationship between money and well-being is complex, but it does not suggest that future happiness requires endless growth in incomes. Indeed, the dominant, though frequently challenged theory for the past several decades has been the “Easterlin Paradox,” named for its creator, economist Richard Easterlin. That theory offers two major conclusions:

1. When comparing individuals within a country, wealthier people report greater happiness, but
2. When making international comparisons, national income per person beyond a level of modest affluence is only weakly related to people’s happiness levels.

There is a significant exception to this second assertion: The lowest income countries—those without enough money for food and shelter—are least happy with their lives. Evidence indicates that this is also true on an individual level. Recent survey data in the United States, for example, has found that people in poverty are less happy, are more likely than those not in poverty to suffer from chronic health problems, and are disproportionately prone to suffer from psychological depression.

When GDP rises in low-income countries, it is often accompanied by significant gains in happiness. But beyond a modestly comfortable standard of living, there is very little relationship between national income and happiness. Countries whose people have enough income to meet their basic needs are barely less happy than those with greater wealth.

Easterlin bases these conclusions on a wealth of data. If correct, his theory has far-reaching implications for policy decisions. While the eradication of poverty should be a primary goal of government policies aimed at improving happiness, the same is not necessarily true for economic growth per se, which, beyond a modest level of comfort and security, does little to improve well-being. Moreover, Richard Wilkinson and Kate Pickett have demonstrated that the Easterlin paradox holds in many other areas of life as well as happiness—life expectancy, educational levels, leisure time, and so forth.

Uneconomic Growth

There has been much recent controversy regarding Easterlin’s thesis, with some researchers pointing out that in many cases, happiness levels do continue to grow—albeit slowly—along with GDP, even in the richest nations. But while some gains in happiness may continue past the point at which the curve of happiness tends to flatten out, they are often far too modest to justify their costs in decreased equity and sustainability. Economist Jeffrey Sachs and others (including Easterlin) have made the case that where such gains do continue, they are likely to be greatest in more equal societies with strong social and economic safety nets, such as the Nordic countries. Nonetheless, such
But Italian economist Stefano Bartolini makes a powerful case for a different view. He says our more rapid growth rate is a symptom of American socio-economic decay, not dynamism. In his new book, *Manifesto for Happiness*, to be published in English this year by the University of Pennsylvania, Bartolini calls the United States “the example not to follow.”

In short, his argument is this: growing inequality has left median American hourly incomes flat for a generation while GDP doubled. We were able to purchase the increased volume of consumer goods produced by working longer hours and by taking on excessive personal debt. But more work and more stuff have left us lonelier and less connected with each other, while growing debt has led to calls for slashing taxes, leading to higher prices for public goods such as higher education or access to public parks. We have been encouraged to counter these losses by purchasing even more private goods (Want friends? Buy a hot car . . . Want nature? Fly to a tropical paradise . . . Need time? Eat fast food . . .), leading to even heavier debt and workloads. Moreover, our lifestyles, built around private consumption, have created low-density sprawl that makes public transit too expensive and encourages automobile dependence, longer commutes, and even less social connection, while further reducing public space and access to nature. It’s a vicious circle.

In short, Bartolini argues, free or publicly-provided and often non-material need-satisfiers have atrophied or been crowded out by costly private consumer goods. The outcome is poor health (the worst in the rich world), time stress, greater anxiety, and diminished happiness, including a suicide rate that now exceeds that for traffic fatalities. Yet our expenditures to soften these impacts (the highest health care costs in the world, for example) mean our economy grows faster than Europe’s, where people work and consume less and devote more time to social relationships. We are hamsters, turning the wheel faster and faster but gains are still coupled with potentially unsustainable resource use.

While the economic paradigm based on limitless growth prevails in nearly all nations, the United States provides the clearest powerful example of the Easterlin paradox. Although U.S. per capita GDP has tripled since the late 1950s in real dollar terms, levels of happiness remain essentially the same as they were then.

Economic growth, our current indicator of success, is measured by the rise of the Gross Domestic Product (GDP), which is the market value of the goods and services we produce—the sum total of things bought and sold. It’s commonly agreed that GDP is a blunt instrument; it doesn’t measure valuable activities that are not monetized (e.g., housework) and it counts (as a plus) expenditures that only alleviate things gone wrong (e.g., cancer treatments). Perhaps Bobby Kennedy put it best when he said, “It measures, in short, everything except that which makes life worthwhile.”

Economist Herman Daly argues that “growth” refers to purely quantitative expansion, while “development” denotes qualitative improvement. As Manfred Max-Neef puts it, “Growth is not the same thing as development and development does not necessarily require growth.” Indeed, as we have seen, if such growth comes at the expense of equality, sustainability, or the ability to meet essential non-material needs, it may actually impede development and well-being. It becomes, in Daly’s words, “un-economic growth.” Much current growth, comprised of defensive measures against the negative impacts of earlier growth, can be seen in this way.

By all accounts, the United States’ economy has grown faster than those of Europe over the past two decades, when measured by GDP. We trumpet that fact as indicating the success of our economic model.
never moving forward to better lives.

This result can scarcely be called a “successful” economy. Economic success is better measured the way Bhutan does. Since 1972, that tiny Himalayan kingdom has been promoting Gross National Happiness rather than GDP. With Bhutan’s encouragement, the United Nations is now advocating “equitable and sustainable well-being” as the goal of development instead of mere economic growth, while asking member nations to measure their success in pursuing happiness. A better measurement of “success” is the first step toward well-being.

In the United States, an organization called The Happiness Initiative (www.happycounts.org) has been working with colleges and communities on such a measurement of progress, using a comprehensive but short survey that measures life satisfaction in ten “domains” identified by researchers as essential for happiness: financial security; environmental quality; physical and mental health; education; arts and culture; government; social connection; workplace quality; and time balance.

“Time balance” scores for Americans are uniformly low, leading to my own recipe—supported by luminaries Juliet Schor, Gus Speth, and others—for strategically moving toward a successful economy without continuous economic growth: work reduction. Americans, who work some of the longest hours among rich countries, are increasingly stressed by overwork; indeed, cardiologist Sarah Speck calls workplace stress “the new tobacco.” It negatively impacts both health and happiness. She says she is now seeing heart attacks among patients in their forties and fifties, while when she started out in medicine a generation ago, she didn’t see them until patients were in their sixties and seventies.

Ironically, such overwork is increasingly combined with underwork—many Americans cannot find sufficient paid employment to meet basic needs, and unemployment, while down a bit in the past couple of years, is still much higher than the United States would have considered acceptable a generation ago.

High unemployment is certainly no indication of economic success; indeed, it contributes greatly to unhappiness. As productivity increases, employment must be maintained either by greater production and consumption (with attendant environmental costs) or by sharing and shortening work hours through reduced work weeks, longer vacations, liberal family and sick leave policies, and greater opportunities for decently-remunerated part-time work with benefits. Work reduction would provide more economic security and more time for self-chosen activity—exercise, gardening, volunteering, environmental restoration and stewardship, socializing, stress-reducing leisure, personal care-giving. Yet this obvious answer to the question of how to create a successful economy without continuous growth has been systematically excluded from American politics since the Second World War.

The organization Take Back Your Time (www.timeday.org) has been working to shorten work time by, among other methods, requiring paid vacation time for American workers, who currently have the shortest vacations in the rich world. Sarah Speck says she often tells her patients to “take two weeks (not two aspirins) and call me in the morning.” But often, they cannot get the time off. The United States is one of only five nations in the world—the others are Nepal, Burma, Suriname, and Guyana—without a paid vacation law, and more than a quarter of American workers (the poorest) have no access to paid vacations and cannot afford to take time off without pay.

Eighty years ago, the U.S. Senate passed a bill that would have made the official American workweek
thirty hours, with extra pay for overtime. Today, when we are at least five times more productive per worker hour and are experiencing high levels of unemployment, it’s time to give shorter working hours another look. Doing so would not only provide more access to jobs, it would provide more time for us to take care of our health, families, communities, and environment. Recent studies by the Center for Economic and Policy Research and by researchers at Chalmers Institute of Technology in Sweden have also found that work reduction leads to significant reduction in greenhouse gas emissions, the culprit in climate change.

Some argue that it will be very difficult to change the laws that permit work without end. Again, they forget that it will be far harder to change the laws of physics to permit growth without end. Economic justice and environmental sustainability both require work-time reductions. Conrad Schmidt, of British Columbia’s Work Less Party, puts the solution in simplest terms: Workers of the World, Relax!

John de Graaf is a documentary filmmaker, Executive Director of Take Back Your Time (www.timeday.org) and co-author of Affluenza: The All-Consuming Epidemic (Berrett-Koehler, 2001) and What’s the Economy For, Anyway? Why It’s Time to Stop Chasing Growth and Start Pursuing Happiness (Bloomsbury, 2011).
CHN BOOKSHELF

A regular feature calling attention to important books and articles that CHN staff, board, and collaborating scholars are reading and recommend.

Quot libros, quam breve tempus.

S. Conly, Against Autonomy: Justifying Coercive Paternalism (Cambridge University Press, 2013).


S. A. Marglin, The Dismal Science: How Thinking Like an Economist Undermines Community (Harvard University Press, 2008.)


WAKE UP TIME

It is dawn.

The sun is conquering the sky and my grandmother and I are heaving prayers at the horizon.

"Show me something unbeautiful," she says, "Try it."

"If you can then there is a veil over your eyes and I will take it away You will see hozhó all around you. Inside of you."

This morning my grandmother is teaching me the meaning of hozhó.

There is no direct translation from Diné Bizaad, the Navajo language, into English but every living being knows what hozhó means.

Hozhó is every drop of rain, every leaf on every tree, it is your every eyelash, it is every feather on the bluebird's wing. Hozhó is undeniable beauty.

Hozhó is in every breath that we give to the trees. And in every breath they give to us in return. Hozhó is reciprocity.

My grandmother knows this well. For she speaks a language that grew up and out of the desert floor like red sandstone monoliths that rise like the arms of the earth reaching into the sky and praising creation for all its brilliance.

Hozhó is remembering that you are a part of this brilliance. It is finally accepting that, yes, you are a sacred song that brings the Diyin Dine'é, the gods, to their knees in an almost unbearable ecstasy. Hozhó is remembering your own beauty.

My grandmother knows this well. For she speaks the language of a Lók'aa'ch'égi snowstorm. She speaks the language of hooves hitting the dirt on birthdays. For my grandmother was a midwife and would
gallop to the hogaans where the women were in labor. Now she is fluent in the language of suffering mothers, fluent in the language of joyful mothers, fluent in the language of handing a glowing newborn to its creator.

Hozhó is an experience. But it is not something you can experience alone the eagles tell us as they lock talons in the stratosphere and fall to the earth as one during courting season. Hozhó is a form of interbeauty...

My grandmother knows this well for she speaks the same language as the male rain which shoots lightning boys through the sky, pummels the green corn children, and huddles the horses against cliff sides in the early afternoon.

She also speaks the language of the female rain which sends the scent of dust and sage into our homes and shoots rainbows out of and into the earth.

Us Diné, we know what hozhó means! And you, you know what hozhó means. And deep down we know what hozhó does not mean.

Like the days we walk in sadness. The days we live for money. The days we live for fame.

Or like the day that the conquistadors came climbed down from their horses and asked if they could buy the mountains.

Now, we knew this was not hozhó because we knew you cannot buy a mountain but we knew we could make it hozhó once again.

So we took their silver swords and we took their silver coins and we melted them with fire and buffalo hide bellows and recast them into squash blossom turquoise and silver jewelry pieces
and strung it around their necks.  
We took the silver helmets straight off their heads  
and transformed it into a fearless beauty.  
We made jewelry.  
Hozhó is the healing of broken bones.

Hozhó is the prayer that carried us  
through genocide and disease,  
It is the prayer that will carry us through global warming  
through this global fear that casts shadows on the walls of our minds.

This morning my grandmother is  
teaching me something very important!  
She is teaching me that the easiest  
(and most elegant) way  
to defeat an army of hatred  
is to sing it beautiful songs until it falls  
to its knees and surrenders.

It will do this, she says, because it has finally  
found a sweeter fire than revenge.  
It has found heaven.  
It has found hozhó.

And so this morning my grandmother is talking  
to the colors of the sky at dawn, saying:  

hózhónáházdlíí'  
hózhónáházdlíí'  
hózhónáházdlíí'  
hózhónáházdlíí'  

Which means:  
beauty is restored again...  

It is dawn, my friends.  
Wake up.  
The night is over.

Lyla June Johnston is a Diné (Navajo) woman recently graduated from Stanford University. Her reading of "Wake Up Time“ can be heard at http://www.humansandnature.org/LastWord-WakeUpTime
For centuries, people in extractive economies have asked everything of the Earth – food, shelter, spiritual solace, water, weapons, birthplaces and burial grounds.

The question so seldom asked is the reciprocal:

**WHAT DOES EARTH ASK OF US?**

With responses from...

Robin Kimmerer
Kathleen Dean Moore

Aya Yamamoto
Terry Chapin
Jacqueline Patterson
Carl Safina
Danielle Nierenberg
Kyle Powys White
Alan Weisman
Bron Taylor

The conversation begins on October 1.

Join us at www.HumansandNature.org/EarthAsks