

# Cultures of Habitat

ON NATURE, CULTURE, AND STORY

*Gary Paul Nabhan*

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## PROLOGUE

### *Cultures of Habitat*

*I see him more as one of those spare men of the desert, who  
travel from oasis to oasis, trading legends as if it is the  
exchange of seeds, consuming everything without  
suspicion, piecing together a mirage.*

MICHAEL ONDAATJE, *The English Patient*

Poets, seed trackers, and biogeographers all have a penchant for pattern recognition. Once they perceive a pattern, however, they may spend hours trying to figure out whether it is as fleeting as a mirage or as steadfast as the earth itself.

“Take a look at these two maps I’ve torn out of different *Atlantic Monthly* issues,” David Hancocks said as I came into his office at the Arizona-Sonora Desert Museum. David, then the executive director of the museum, is always profoundly curious about the world around him. As director of science at the museum, I was in the office across the hall from his, and frequently one of us would call the other over when we’d discovered something peculiar, absurd, or thought-provoking.

He had two maps laid out atop his desk, one entitled “Staying Put,” the other “The Geography of Endangerment.” Both were maps of the continental United States displaying color-coded data county by county. Without offering any interpretation or comparison, David asked me to look at one, then the other. “Staying Put” displayed the

relative duration of residency within each county. "The Geography of Endangerment" documented which counties had the most threatened or endangered species on the federal government's lists.

Suddenly, I went goggle-eyed: the fit was not perfect, but the correlation between the two patterns was undeniable. Where human populations had stayed in the same place for the greatest duration, fewer plants and animals had become endangered species; in parts of the country where massive in-migrations and exoduses were taking place, more had become endangered. In places such as southern California, Florida, southern Nevada, and Hawaii, urbanization and invasion by exotic species have created "hot spots" of endangered native species.

"Could it be, David, that the more stable a community is...the better it can buffer native plants and animals from otherwise pervasive threats?" I asked.

"You're the conservation biologist," David offered casually. "You tell me."

The mosaic of essays in this book developed from David's juxtaposition of those maps. For the past three years, I have tackled riddles regarding relationships among cultural diversity, community stability, and the conservation of biological diversity in natural habitats. Why are naturally diverse regions also culturally diverse? What allows certain communities to resist harmful economic and social change? Do these communities retain more intact habitats in their homeland because of this resistance? Why do such similar forces seem to undercut both biological and cultural diversity, and what can we do to control these forces? For that matter, what "good" is diversity? And do most people (not just natural scientists) have some visceral sense of its value?

These questions have unhinged some doors that had long ago swung shut in my own world. I began to wonder why I preferred to work on conservation issues in cross-cultural settings, settings that made many biologists uneasy. Could my upbringing within a clan of Lebanese immigrants have contributed to my receptivity to the "other"?

Who actually believes that everyone of Eurasian descent in North America was predisposed to acting less sensitively to the land than Native Americans? As Wes Jackson has asked, what will it take to make us all (or our descendants five centuries from now) native to this

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Midwestern homelands? Have urban Sioux in Minneapolis-St. Paul  
relinquished their status as native to the humid land of their ancient  
origins in the Southeast or to the plains to which they later moved?  
Does lumping together all minorities living in North America as  
"people of color" obscure significant differences in their allegiance to  
place or their depth of knowledge of local biodiversity?

Ecologist Ray Dasmann once used the term *ecosystem peoples* to con-  
trast indigenous communities having long tenure in one habitat com-  
plex with their more cosmopolitan neighbors:

I have attempted to describe the differences between people who live  
in one place and are dependent on the local ecosystem for support and  
those who do not. If one is totally dependent, or largely so, on the ani-  
mals and plants of a particular area, one must learn some reasonable  
balance.... It follows that people who have lived for centuries or longer  
in the same places, without major sources of supply from the outside,  
must develop some working relationship with the species surround-  
ing them. I have called these people *ecosystem people*, because they occupy  
one, or a few, local ecosystems.

But how do we decide who exemplifies the ways of ecosystem  
people? Can we reasonably dismiss the Scots-Irish, the Kickapoo, or  
the Quichua who have expanded their domain beyond their pre-  
Columbian region of origin, restricting the use of the term to place-  
specific cultures such as the Hopi, the Cucupa, the Mandan, or  
Ojibway? Do Mennonites, Lapps, Basques, and Bedouins qualify as  
"traditional peoples," "ecosystem peoples," or "indigenes" as much as  
"Native Americans" do?

This book arises from my interest in human communities that have  
a long history of interaction with one particular kind of terrain and  
its wildlife. Dasmann would call them "ecosystem peoples," but I pre-  
fer to speak of "cultures of habitat." The term *ecosystem* comes from  
the scientific tradition of identifying discrete but somewhat arbitrary  
units of the natural world as though each functioned like an organic  
machine. In contrast, the term *habitat* is etymologically related to  
*habit*, *inhabit*, and *habitable*; it suggests a place worth dwelling in, one  
that has *abiding* qualities. I could not make a machinelike *ecosystem*  
my abode for long, but I could comfortably nestle down within a  
*habitat*.

The term *culture* may likewise be preferable to the value-neutral *people*; *culture* implies that we learn from our elders and neighbors a way of living in a place that is more refined or better adapted than our genes alone can offer. I am attempting to blur the traditional distinction between *nature* and *nurture*. As I show in my discussion of diets and diabetes among Native Americans, we are only beginning to understand how gene-environment interactions shape human lives (as Darwinians believe they have shaped the lives of all other species). A stable human community may have both genetic and orally transmitted cultural adaptations to place that often escape the eye; whether these adaptations offer a greater capacity for conserving the biodiversity around them, I do not yet know. For many conservationists, the notion of *cultural stewards of wildlands habitats* is a contradiction in terms, if not a heresy—we should leave wild nature “alone.” For deconstructionists, on the other hand, “wild nature” is a cultural construct, and they claim it does not exist outside the mind of those indoctrinated by Western civilization. A vast terrain lies between the poles set up by conventional conservationists and deconstructionists, a terrain more fertile than that in which either pole actually sits.

This is the terrain I will chart, not so much with parameters and statistics, but through story. Many of these stories will be tales from “the Far Outside,” that realm in which diverse natural habitats and indigenous cultures coexist without one overwhelming the other. It harbors homes and habitats quite unlike the homogenized landscapes now dominating what we see on our television screens. It is a refreshing contrast to the manmade world described in the “urban dysfunctional literature” written by solipsists who refer to novels set in this vast realm as “nature literature.” It is the terrain in which relatively few people now live, although it has been the evolutionary ground where our bodies, minds, and hearts have taken shape throughout most of human history.

Simply put, the Far Outside is the seedbed for our souls. I hope these stories will grow like sprouted gourd seeds, vining out and twining high into the surrounding space. Perhaps they will come to be cross-fertilized with your own stories, brought from the places of your ancestors, to produce fruits sweeter and tastier—and more diverse—than those cloned from a single source.

## Finding Ourselves in the Far Outside

*The world in which the kestrel moves, the world that it sees, is, and will always be, entirely beyond us. That there are such worlds all around us is an essential feature of our world.*

MARY MIDGLEY, *Beast and Man*

When I heard it, I was in a small meeting room in Alaska, and that was part of the trouble. I was supposed to be paying attention to what was being said in the room, where I was taking part in a symposium about the meaning of the natural world. But from my seat I could hear ravens coming in to roost in the spruce trees above us, and I wondered how their calls were different from those of the Chihuahuan ravens down where I live. I could look out the windows and see bald eagles swooping over the waters of the sound. More distracting still, I already had the stain and smell of salmonberries on my hands and had been perplexed all morning as to why the ripe berries on two adjacent bushes were entirely different colors.

And that's when I heard it. A familiar warble came out of the well-educated, widely read humanist sitting a few chairs away from me. She asserted a truism I had been hearing in one form or another for nearly thirty years: "Each of us has to go *inside* before we can go *outside*! How can we give any meaning to the natural world until each individual finds out who he or she is as a human being, until each of us finds our own internal source of peace?"

I immediately felt nauseated. Something had stuck in my craw. I

had to leave the room. Our moderator followed me out to the porch, where I gasped for air.

"Are you *okay*?" she asked earnestly. "You looked *green* all of a sudden."

"I dunno." I breathed deeply and looked up at the crisp blue sky. "I must be...uh...under the weather a little. If you don't mind, I had better go for a walk and get some fresh air."

As I ambled along a trail lined with totem poles, taking a loop through the coastal rain forest, I tried to spiral in on what had disoriented me. I realized I was uncomfortable with the notion of humans giving the natural world its "meaning." The plants and animals I have observed over twenty years as a field biologist hardly seem to be waiting for *me* to give *them* meaning.

But most of the folks at the symposium wanted to feel that *we* are meaningful, and so we project *our* meanings onto the rest of the world. We read meaning into other species' behavior, but with few exceptions, they are unlikely to do the same toward us.

Humans may be rare even among primates in the attention we give to the tracks, calls, and movements of a wide range of other species. To paraphrase one prominent primatologist: "If their inattention to their neighbors other than predators is any indication, most monkeys are extremely poor naturalists." The same can be said of many other wild animals that live in sight of, and in spite of, human habitations.

While it may somehow be good for *us* to think, watch, sing, or write about the astonishing diversity of plants and animals within our surroundings, are we sure that this does any good for *them*? I am reminded of the realization John Daniel came to while hopping through a snake-laden boulder field: the snakes were not fazed by his thoughts, fears, or needs. Daniel writes in *The Trail Home*: "The rattlesnakes beneath the boulders instructed me, in a way no book could have, that the natural world did not exist entirely for my comfort and pleasure; indeed, that it did not particularly care whether my small human life continued to exist at all."

Walking along, my restlessness increased as I considered the premise put forth in the meeting room: that the shortest road to wisdom and peace with the world is the one that turns inward, away from direct sensory contact with other creatures. I will not assert that med-

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itation, psychotherapy, and philosophical introspection are unpro-  
ductive, but I simply can't accept that inward is the only or best way  
for everyone to turn. The more disciplined practitioners of contem-  
plative traditions can turn inward and still get beyond the self, but  
many others simply become swamped by self-indulgence. There are  
far too many people living in our society who forget daily that other  
creatures—five kingdoms' worth of them—are cohabiting the planet  
with us.

Over half a century ago, Robinson Jeffers suggested that it may be  
just as valid to turn outward: "The whole human race spends too much  
emotion on itself. The happiest and freest man is the scientist inves-  
tigating nature or the artist admiring it, the person who is interested  
in things that are not human. Or if he is interested in human beings,  
let him regard them objectively as a small part of the great music."

I finished my walk on the forest's edge, where the great music of  
crashing waves flooded into the tide pools, where wind ruffled devil's  
club leaves, and hermit thrushes sang. I reminded myself that the wis-  
est, most inspired people I knew had all taken this second path, head-  
ing for what I call the Far Outside. It is the path found when one falls  
into "the naturalist's trance," the hunter's pursuit of wild game, the  
*curandera's* search for hidden roots, the fisherman's casting of the net  
into the current, the water witcher's trust of the forked willow branch,  
the rock climber's fixation on the slightest details of a cliff face. Why  
is it that when we are hanging from the cliff—beyond the reach of  
civilization's safety net, rather than in it—we are most likely to gain  
the deepest sense of what it is to be alive? Arctic writer-ethnographer  
Hugh Brody has brooded over this question while working in the  
most remote human communities and wildest places he can find.  
There, he admits, "at the periphery is where I can come to understand  
the central issues of living."

Unlike more monotonous conditions within the metropolitan grid,  
the Far Outside still offers comic juxtapositions worthy of a Gary Lar-  
son cartoon. The flood suddenly looms large before Noah can get the  
diversity of the human family onto the ark full of animals. The bugs  
in the test tube have the last say about the experiment. That experi-  
ment is the one in which you and I participate, whether we are at  
home, in a laboratory, or in the wilderness. It is the Great Improvi-



sation—the diversification of life on earth—which has led to golden as well as reddish-purple salmonberries, Sitka as well as blue spruce, and northwestern as well as Chihuahuan ravens.

When I returned home from the rain forest to the Stinkin' Hot Desert in Arizona, I decided to see how an elder among my O'odham neighbors might view this apparent dichotomy between inward and outward paths—or for that matter, the dichotomy between culture and nature. I drove a hundred miles across the desert to visit a seventy-four-year-old O'odham farmer who had worked all his life "outdoors": tending native crops, chopping wood, driving teams of horses, gathering cactus fruit, hunting, and building ceremonial houses for his tribe's rain-bringing rites. He was consistently wise in ways that my brief bouts with Jungian analysis, meditation practice, and Franciscan prayer had not enabled me to be. And I knew that because he'd had a brush with death in the last year, he had been made sedentary and was forced to be alone in his home for a longer time than ever before. I found him sitting outside on an old wooden bench, a crutch on either side of him, looking out at a small field that he would not be able to plant this year. I asked him what he had been working over in his mind the last few months.

"I'd like to make a trip," he said, nonchalantly for a man who had only traveled once beyond the limits of the desert—all the way to Gallup—and who at the end of his life lived less than thirty miles from where he was born.

"Yes, before I die, I'd like to go over there to the ocean," he nodded to the southwest, where the Sea of Cortez lay a hundred miles away. It was a sacred place for the desert O'odham, where they used to go as pilgrims for ocean power, for salt, and for songs. My elderly friend paused, then continued.

"Yes, I would like to hear the birds there in the sea. I would like to hear those ocean birds sing in my native language."

"In *O'odham ba-neoki*?" I asked. I must have looked surprised that he felt the birds spoke *his* language, for he then offered to explain his comment as if it had been scribbled in a shorthand indecipherable to me.

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they would stand on the edge and listen to those birds sing. And the birds are in many of the songs we still sing today, even though we haven't walked or ridden horses there since the hoof-and-mouth quarantines in the forties. In the old days, they didn't start to sing those songs while they were still at the ocean. No, the people would go back home, and then some night, those ocean birds would begin singing in their dreams. That's where our songs come from. They would come to our medicine men, from the ocean, in their dreams. Maybe the ones who play the violin would hear them in their sleep, and their voices would turn up in their fiddle tunes. Maybe the *pascola* dancers would hear the way they flew, and it would end up in the way they sounded when they danced with their rattles. Those birds have ended up in our songs, and I want to hear them at the ocean before I die."

I was moved by my friend's desire to hear those birds for himself at the edge of the ocean. For a lifelong dweller in a riverless desert, the ocean must be a landscape wilder than the imagination, truly unfathomable. In the end, he sought to juxtapose his culture's aural imagery of ocean birds with what the birds themselves were saying. He desired to experience nature directly, as a measure of the cultural symbols and sounds he had carried with him most of his life.

My friend's songs and stories reflect the larger, other-than-human landscape, one intrinsic to his culture's literature, music, or ways of healing. When I arrived at his home once, years ago, I saw him carrying into the kitchen a mockingbird he had captured in a seed trap, killed, and carefully butchered, in order to cook the meat and feed it to his grandson. Mockingbirds are not simply good mimics, they are irrepressibly loquacious; his grandson was not. The boy was nearly three years old and had not spoken a word. My friend recalled the sympathetic ritual of his people for curing such difficulties: feed the mute one the flesh of a mocker or a thrasher. He will have the best chance of being able to express himself if he ingests the wild world around him.

This is where "inner" and "outer" become not a duality but a dynamic—like every breath we take. We are *inspired* by what surrounds us; we take it into our bodies, and we respond with *expression*. What we have inside us is, ultimately, always of the larger, wilder world. Nature is not just "out there," beyond the individual. The

O'dham boy now has seed, bird, and O'dham history in his very muscles, in the cells of his tongue, in his reverberating voice box. Today, the boy speaks aloud to the entire world.

Lynn Margulis has pointed out that there are myriad other lives inside each human "individual." For every cell of our own genetic background there are a thousand times more cells of other species within and upon each of our bodies. It would be more fitting to imagine each human corpus as a diverse wildlife habitat than to persist in the illusion of the individual *self*.

Or better, each of us may truly be a living corpus of *stories*: bacteria having the final word within our own mouths; fungi breeding between our toes; other microbes collaborating to digest the world within our intestines; archetypal images from our evolutionary past roaming among nerve synapses, pitting our groin muscles against our brain tissues.

If I could distill what I have learned during a thousand and one nights working as a field biologist, waiting around campfires while mist-netting bats, running lines of live traps, or pressing plants, it would be this: each plant or animal has a story of some unique way of living in this world. By tracking their stories down to the finest detail, our own lives may be informed and enriched.

It is easy for such a notion to be obfuscated by high-tech science. The zoologist who radio-collars a mountain lion may call his research a "range utilization analysis," but he is simply tracking that critter's odyssey. An ecologist interested in the nutcracker's dispersal of pine seeds is slowly learning the language of the forest, and the birds are her newly found verbs.

Perhaps because of what Paul Ehrlich calls "physics envy," many biologists feel inclined to mask their recording of stories behind numbers, jargon, and theory. We find their remarkable insights buried beneath technobabble about life histories, optimal foraging tests, or paleoecological reconstructions. Most of them, however, are merely tracing the trajectory of another life as it demonstrates ways to survive in the Far Outside.

In *Writing Natural History*, two-time Pulitzer Prize-winner E. O. Wilson describes the struggle scientists have simply to be storytellers: "Scientists live and die by their ability to depart from the tribe and

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go out into an unknown terrain and bring back, like a carcass newly speared, some new discovery or new fact or theoretical insight and lay it in front of the tribe; and then they all gather and dance around it. Symposia are held in the National Academy of Sciences and prizes are given. There is fundamentally no difference from a Paleolithic campsite celebration." Yet, even with these campsite celebrations, we have only the crudest of character sketches of most of the floral and faunal members of our community. As Wilson reminds us,

Even though some 1.4 million species of organisms have been discovered (in the minimal sense of having specimens collected and formal scientific names attached), the total number alive on the earth is somewhere between 10 and 100 million.... Of the species given scientific names, fewer than 10 percent have been studied at a level deeper than gross anatomy. [Intensively studied species make up]...a still smaller fraction, including colon bacteria, corn, fruit flies, Norway rats, rhesus monkeys, and human beings, altogether comprising no more than a hundred species.

Try to imagine the still-untold stories, the sudden flowerings, the cataclysmic extinctions, the episodic turnovers in dominance, the failed attempts at mutualistic relationships, and the climaxes that took hundreds of years to achieve. In every biotic community, there are story lines that fiction writers would give their eyeteeth for: Desert tortoises with allegiances to place that have lasted upward of 40,000 years, dwarfing any dynasty in China. Fidelities between hummingbird and montane penstemon that make the fidelities in Wendell Berry's Port William, Kentucky, seem like puppy love. Dormancies of lotus seeds that outdistance Rip Van Winkle's longest nap. Promiscuities among neighboring oak trees that would make even Nabokov and his *Lolita* blush. Or all-female lizard species with reproductive habits more radical than anything in lesbian literature.

Still, with the myriad stories around and within us, how many of them do we recognize as touching our lives in some way? Most natural history essays are so limited in their range of plot, character development, and emotive currents that Joyce Carol Oates has come to an erroneous, near-fatal assumption about nature itself. In her essay "Against Nature," Oates claims that nature "inspires a painfully

limited set of responses in 'nature writers'...*reverence, awe, piety, mystical oneness.*"

Most environmental journalists offer an even more limited set of "news" stories: either (1) that someone has momentarily succeeded in disrupting the plans of the bastards who are ruining the world; or (2) that the bastards are still ruining the world. Most newspaper and magazine journalists who ostensibly cover biological diversity tell the same doom-and-gloom story over and over, while they include virtually nothing substantial about the nonhuman lives embedded in that diversity. One week, *Paradise Lost* is told with the yew tree as the victim in the temperate rain forest; the next, the scene has shifted to peyote in the Chihuahuan desert—but the plot is still the same.

Our existence is being degraded by ignorance of these diverse stories. In stark contrast to the wide range of creatures that my O'odham friend has encountered in his dreams, fewer and fewer creatures are inhabiting the dreams of those in mainstream society. I know another elderly man who lives in the midst of metropolitan Phoenix. Although he is a few years younger than my friend the Indian farmer, he seems far closer to death; I can feel it every time I visit him. He too was formerly an outdoorsman and farmer, skilled with horses, hunting, building, and wood carving. But now he has emphysema and cannot even go outside and sit, the contaminated air of Phoenix is so vile. Yet that is not all that is killing him. Confined to a hermetically sealed tract house, he sits in front of a television all day long and hears just three stories repeated ad nauseam: (1) Saddam Hussein and other foreign despots are out to get us; (2) substance-abusing street gangs are out to get us; and (3) mutant microbes are out to get us. He seems drained of all resilience, a man without hope. He feels as though he has lost all contact with the wildlife, the Far Outside, that had been his source of renewal most of his life.

Harkening back to William Carlos Williams, we might say that society pays little attention to these myriad lives, but people die for lack of contact with them every day. By the end of this decade, 25,000 species—25,000 distinctive stories, ways of living in this world—are likely to be lost unless we begin to learn of these beings in ways that move us to halt our destructive behavior.

Scientists cannot do the work by themselves. Now, more urgently

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Williams, we might say that riad lives, but people die for he end of this decade, 25,000 rs of living in this world—are 1 of these beings in ways that r. mselves. Now, more urgently

than ever before, we all need to come face to face with other lives in the Far Outside—with the Bali mynah, and the Furbish lousewort, and the microbes within our guts. We need to hear the stories of these creatures revered by other cultures, from Inuit whale hunters in the arctic circle, to O'odham singers of sacred datura songs in the deserts, to Mayan beekeepers in the rain forests of the Yucatán peninsula. What might happen if some of those who now turn inward, apprenticing themselves to all kinds of gurus, therapists, and Webmasters, would turn outward as apprentices to other species: Komodo dragons, marbled murrelets, desert pupfish, beer-making yeasts, Texas wild rice, or flower-loving flies.

I can't help but wonder if the dilemma of our society is not unlike that of the mute child who needs to eat the songbird in order to speak. Unless we come to incorporate the songs from the Far Outside, we will be left dumb before an increasingly frightening world. But this incorporation is just the first step. Once we have begun to express in our own ways the stories inspired by those other lives, we need to keep seeking out those lives in order to compare constantly the images we have conjured up with the beings themselves.

It is time to go Outside, farther than we have ever gone together before. It is time to hear the seabirds singing at the edge of the world and to bring them back, freshly, into our cultural stories, into our dreams.