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Guest Editorial

by Mandy Creighton, Within Reach

Cycling Toward Sustainable Community

What do you really want to do with your life? When my partner and Within Reach co-biker Ryan Mlynarczyk was asked that question last year, his simple response was "to live more sustainably on the land and in community."

Ryan Mlynarczyk and Mandy Creighton of Within Reach as they pedal down a rainy Tucson, Ariz. street.
Photo by Ryan Mlynarczyk.

Most of us spend a majority of our lives walking in and out of boxes: from the bedroom to the garage to the office and back again. We scarcely find time to be outdoors, other than planned activities, kids' sports games, and the like. Why is it that our bodies, which are born of nature, feel so drawn to the great *indoors*? Is it possible to have the best of both worlds?

Only when I began questioning did I find another way. Indeed, when you really want something, for the right reasons, it does seem as though the "entire universe conspires in helping you to achieve it," as Paulo Coelho writes in *The Alchemist*.

There is a certain connection to the land that one can only experience in the open air. No windows glaringly reflecting the outside world back to you. No barrier lending its seemingly protective wall keeping "strangers" away. Nothing shielding you from the elements of nature, be it wind, rain, or blazing sun.

In the summer of 2007, the dream of bicycling 12,000 miles across the U.S. to visit and document sustainable communities was born, and manifested as the project called Within Reach. In February 2008, I jumped on board, realizing that this could help me find a way to live outside the box—to learn about, serve, and grow sustainable communities.

I sold my car and moved to California to join the Within Reach tour. Since our tour began in San Francisco in September, we have bicycled over 1,400 miles, visiting more than forty sustainable communities in California, Arizona, and New Mexico as we journey to the East Coast and back again.

Camping along the way: Ryan and Mandy of Within Reach prepare for another day of riding across the desert.
Photo by Ryan Mlynarczyk.

We characterize "sustainable community" as a localized group of people working together to create a regenerative lifestyle, one that provides for the needs of today's generation without compromising the ability of future generations to meet their own needs. Sustainable communities include ecovillages, cohousing communities, coops, spiritual communities, live/work neighborhoods, non-residential communities, integrated inner-city communities, and our newest addition, transition towns.

The mission of the project is to create a documentary film and website, as well as to encourage everyone to consider living sustainably in community.

There is an outward focus to this mission—to encourage others to discover that sustainable community is *within reach* for all of us. But there is also a deeply internal process as we *reach within* each day and find sustainable community to be something that we're already creating!

Cobb dragon sculpted into the wall of a cobb home at the Emerald Earth community in Boonville, California. The community is not only unique in its cobb and strawbale construction, it also serves as the inspiration for the Within Reach tour across the U.S.
Photo by Ryan Mlynarczyk.

As I transition to a bicycle-oriented lifestyle, I notice how an increased connection to the Earth is not only possible, but essential. To accomplish a ride of fifty miles, for example, I must focus on terrain, weather, road, traffic, and the care of my own body. I no longer take good health, physical fitness, protection from sun and biting insects, and the availability of water for granted. As a chronic allergy and asthma sufferer, I feared riding in the wide open would only aggravate these ills. Instead, as I breathe in the open air—roadside or otherwise—I find myself healthier now than ever before.

Riding a bike as a primary means of transportation allows for a deepening connection not only with the natural landscape, but also with intentional communities. I have had the rare opportunity of staying in many alternative dwellings, ranging from domes at Hummingbird Ranch to a state-of-the-art ecohome in the community of Civano. Each of these residences offers the opportunity to live a

bit closer to nature than the average house in America. They are often built of energy-efficient natural materials, many featuring environmental approaches such as composting toilets, rainwater-collecting cisterns, and permaculture gardens.

The most surprising and rewarding element of cycling toward sustainable community, however, has been the opportunity to deepen my connections with other people. As we stop at a rest area, or as we pedal at eight miles per hour down a street, we are regularly approached by inquisitive souls. Simple questions of where we're headed and how comfortable our bicycles are lead to deeper discussions about the state of our world and the positive hope that sustainable communities provide for our future.

In effect, we've exchanged superficial water cooler chats for a chance to truly get to know the nature of humanity and what we want for ourselves, our communities, and the world beyond.

So ask yourself: *What do you really want to do with your life?* You may be surprised at where the response takes you.

Mandy Creighton is currently bicycling 12,000 miles around the U.S. with her partner Ryan Mlynarczyk in exploration of sustainable communities. She is helping produce a feature-length documentary film titled *Within Reach*, and is actively biographing this epic journey on www.withinreachmovie.com.

Column: The Literal Landscape

by Simmons B. Buntin, Editor/Publisher, *Terrain.org*

Flare: An Online Photo Gallery of Cranes and Geese at the Bosque del Apache

The image of winter in the desert Southwest varies greatly: striations of snow on the north rim of the Grand Canyon, for example, or silver rain clouds settling low over a forest of saguaros.

In those rare dryland areas where water collects, winter also means wildlife, and few visual (or aural) experiences surpass the congregation of Sandhill cranes and snow geese at the Bosque del Apache National Wildlife Refuge.

Nestled along the Rio Grande in south-central New Mexico, the refuge straddles the northern edge of the Chihuahua desert. The otherwise arid area includes nearly 13,000 acres of moist bottomlands and 9,100 acres of wetlands, farmlands, and riparian forest fed by water diverted from the river.

Over 340 species of birds inhabit the Bosque, and from November through February, as many as 17,000 cranes and 32,000 snow and Ross geese make the refuge their home. At dawn the birds leave the half-frozen ponds to feed in nearby fields; in the evening they return again. While the cranes leave in pairs or small groups after sunrise—lining up like airplanes on a runway—the clamorous geese rise from the water all at once, their white bodies gleaming in the morning sun. Their raucous departure is stunning, immersive—a strangely symbiotic and spiritual event.

Over the New Year my family drove from Tucson to the Bosque, a gain in elevation of nearly 2,000 feet. We arrived in the afternoon to welcome the birds' advent, then woke before sunrise and bundled ourselves against the 15-degree morning to watch the birds flare into the day.

Enjoy my photos of the Bosque del Apache in the online gallery at www.terrain.org/columns/23/buntin.htm.

Simmons B. Buntin is the founding editor of *Terrain.org: A Journal of the Built & Natural Environments* and writes an online editorial for *Next American City* magazine. His first book of poetry, *Riverfall*, was published in 2005 by Ireland's Salmon Poetry. Recent work has appeared in *Mid-American Review, Isotope, Orion*, and *r.kv.r.y*. New work is forthcoming in *Hawk & Handsaw*, *Elsewhere*, and *Copper Nickel*. Catch up with him at www.SimmonsButtin.com.

Column: Plein Air

by Deborah Fries, *Terrain.org* Editorial Board Member

The Language of Give and Take

On an evening in late September, I describe my symptoms to a young doctor from Sri Lanka. All are related to a recent fall down a flight of stairs, and she asks gently probing questions about my consumption of alcohol and whether my husband has ever hit me. Fifteen minutes later, I recount a new series of complaints: excessive thirst, weight loss, blurry vision.

We are not in an exam room. We are in a study room of a suburban Philadelphia library, playing out scripted scenarios like those that this physician may encounter when she takes the clinical skills portion of the United States Medical Licensing Examination. With the exam only two weeks away, we concentrate on her ability to gather information from patients and communicate her findings. She's brought along a study guide that outlines 15-minute encounters the standardized patients might act out on exam day. Sometimes, caught up in a role, I abandon the script and improvise, adding or subtracting a symptom. She shakes her head.

Norristown, Pennsylvania, where Deborah Fries works, and also volunteers as a tutor for the Literary Council of Norristown.
Photo by Deborah Fries.

She and I have developed an easy rapport, even though we were matched only recently by the Literacy Council of Norristown, where she tested into the advanced class for English as a second language, and I completed tutor training—something I'd wanted to do for years.

My workplace is just two blocks from the council's headquarters in the historic First Presbyterian Church of Norristown, Pennsylvania. More than once, I jotted down contact information during their annual fall tutor and student recruitment. Until recently, some other commitment always made it impossible to follow through, get trained, begin to tutor. *But you should do this,* a little voice always nagged, *you, with your love of English*.

And I do love the language and the excitement of sharing its permutations. In the past, I've taught English composition, creative writing, technical writing, and writing for the health sciences to college students. I've conducted poetry workshops for adult learners. But I always suspected that teaching ESL would create a different kind of exchange, one where I'd not only present my language, but also become a tour guide to our culture, a kind of native stranger, able to see America

as an outsider might, able to interpret this odd new world to another. Expected that the experience would offer mutual enrichment. Like what happened with Carol and Jane.

When Carol Zappala was growing up in the 1950s on Green Street in Norristown, gathering neighborhood children to play school and sticking stars on their papers, she knew she had a calling. But the call to teach was thwarted by circumstance until she was in her middle years, a medical transcriptionist who'd always loved languages, who became a tutor certified to teach adult basic education and ESL.

While Zappala was waiting for her first ESL student, something that seemed providential to her occurred. More than 7,000 miles away, Dr. Jane Liu was getting ready to leave Beijing and come to Pennsylvania, unable to speak a sentence in English. When their paths crossed, Zappala and Liu began a transformational learning experience that would continue steadily for four years, and push Liu from kindergarten flash cards and picture dictionaries to owning two acupuncture clinics; a personal narrative that would reward Zappala's needs to teach and mother with an appreciative, successful protégée. To this day, they enjoy an experience that has created a new kind of family for both of them. Zappala summarizes: *I needed her and she needed me.*

The historic First Presbyterian Church of Norristown, home to the Literary Council of Norristown.
Photo by Deborah Fries.

The concepts of need and transformation are implicit in the idea of literacy education. The idea of mutual transformation is inherent in the coming together of adult students and teachers from different worlds.

Transformation was what the activist educators who founded the Literacy Council of Norristown in 1984 had in mind. They knew that improved reading, writing and speaking skills might allow a parent to assist a child with homework, get a better job, understand doctors'directions, pass exams, gain citizenship. And that literacy and fluency create an armor that can be used to advocate for oneself, navigate a complex financial system, avoid predatory lenders and fraudulent *notarios*—non-lawyers who often illegally practice immigration law without a license.

Approximately 5,000 students later, the work of the council itself has been altered by time. Former volunteer tutors have made literacy education into careers; student demographics have shifted from American to foreign-born students, while national pride in melting pot demographics has eroded.

Nancy Mandato began her work with the Literacy Council of Norristown in 1992 as a volunteer tutor. Today, she directs the efforts of paid staff and more than 100 volunteer tutors. In addition to

the one-on-one teaching that tutors provide, the council offers group classes in the evening. In the fall of 2008, Mandato saw the annual client list rise to 250 students, saw the number of registered ESL students spike 150 percent. She believes the demand for the council's services will continue to increase, especially for the area's growing immigrant population and those who will need to upgrade their skills to obtain or retain employment in a worsening economy. Many students, she notes, are still waiting for tutors.

Like Mandato, Elaine Green was once a tutor. The sense of immediacy and personal satisfaction that she found in literacy education offered exciting redirection. She left her job in financial services and went to Widener University, where she received a master's degree in adult education. She developed an adult diploma program as an alternative to the GED, as well as a tutor training program. Although she now works in a salaried position at the literacy council teaching English as a second language, she recognizes the unpaid rewards of tutoring.

Over lunch at a Norristown *taquería*, she lists benefits that the activity of tutoring offers the many retirees who volunteer their time. She sees literacy tutoring as an active state that supports healthy aging, as well as interpersonal growth. Tutoring requires preparation, mental plasticity, and the empathy needed to appreciate how foreign-born students struggle with American culture, with its speed and impatience.

Mandato and Green paint the broader picture: in thousands of literacy centers across America, adult learners hope to develop skills in reading and writing, and to gain medical, financial, and computer literacy. Some cannot read highway signs or the instructions on their pill bottles. Some hold advanced degrees but work in blue collar jobs because they cannot navigate their life's occupation in another language. All will need education to move forward, and much of it will be provided by volunteers.

In December, back in the study room of the library where we've meet for the past three months, I play an audio clip for my student, who passed her medical licensing exam in October. She wants to be able to understand rapidly-spoken English, and speech that is peppered with jokes, witty asides, figurative language and barely comprehensible allusions. She has been watching the Fox medical drama *House* and wants to understand its snappy, idiom-laden dialogue.

Literary Council of Norristown director Nancy Mandato.
Photo courtesy Nancy Mandato.

I tell her that even American-born viewers have trouble grasping his banter, but for this class I've recorded dialogue-dense scenes from "Daddy's Boy," a second-season episode. Each

clip moves toward diagnosis, ruling out the obvious and searching for the exotic.

It's challenging for both of us. The playback of my digital recorder is not easy to hear and Dr. House is making one smart remark after another. In one breath, he orders imaging, and in the next, tells a resident to "track down all those Richie Riches who went to Jamaica" with the patient. This allusion leads us down an unexpected verbal path, away from *transverse myelitis* and toward *Macaulay Culkin.*

I love these moments of discovery, this give and take of examples. There is always laughter.

My student, I am sure, will practice medicine in this country, as she did in Sri Lanka. Her English is very good, and each week she adds new words and American idioms to her vocabulary. In addition to our sessions, she attends classes offered two nights a week by the literacy council. She graciously supports her fellow students, who are all brave voyagers. If we are lucky, we may travel with them for awhile and exchange stories. If we are very lucky, our stories will overlap, interpreted in good faith, annotated with mutual kindnesses.

Deborah Fries is the author of *Various Modes of Departure* (Kore Press, Tucson). In addition to writing and teaching, her professional life has included journalism, and public affairs for transportation and environmental issues. She recently completed a second book of poetry.

Column: Bull Hill

by David Rothenberg, *Terra Nova* Editor

Does Nature Need Us? Symbiosis as One Way to Survive

It's hard to find an ecologist who will say that the human species is necessary for this planet, in any way, shape, or form. Would not nature be better off without us, given all the energy we require to sustain ourselves, the vast effort we spend reshaping the land in our image, the whole mess we have made of the atmosphere and the oceans, the huge number of species we have helped to deplete? Spare me, wrote the poet A.R. Ammons, man's redundancy. No one needs us but ourselves.

From the perspective of evolution we are but one odd strategy for survival, a strand sure to go nowhere, the one species specialized enough to wonder what we are doing here, to reflect on our place in the scheme of things, to think beyond our own self-interest. I do not know if this makes other species selfish, just that they do not think who they are, they *know* who they are. Or perhaps they don't need to know. They just are, living how they are supposed to live, never doing too much damage, fitting into the world as they must fit in, interwoven with those species who need them and flitting by those who do not interfere with their niches. The evolution of a being who needs to wonder why it is here, to consider whole different possible cultural ways of living—this is clearly a strand of selection destined to fizzle out. And on all the millions of planets out there, and on all the myriad galaxies, have any other species evolved to be this curious, this unsettled?

Sure, from the perspective of nature, in its grandest scale of eons past and future, we or our current sense of ecological crisis cannot possibly matter. Our symbiotic importance is nil, and our tragedy is that we have evolved far enough to realize this loud and clear.

No, it has never been scientists who have claimed the importance of human beings to the pantheon of nature. It has been artists, poets, especially philosophers who have announced how important we are. "Man," wrote Heidegger, "sings the Earth into being." That line always made me feel important to the ecology, as much as I want to believe that nature holds a place for me. Is it nothing but hubris, raw human pride. Sings the *Earth* into Being! How absurd! As if we really need to be there when the tree in the forest falls!

It may be wishful thinking, but we must believe something like that if we are to believe our species should continue as part of the biosphere. We are the questioning species, the answering species, the

ones who solve the puzzles we have by necessity created. Our species was destined to transform the environment, so we had best find the most viable kind of transformation. I know this is fatalist and woolly, but we have gotten to this point and we must imagine we can get out, even if that is faith and nothing more.

Nature may not need humanity in any eternal sense, but it certainly needs us right now. We have polluted the air, land, and sea, we have taxed the finite resources of this planet, and we have avoided the challenge of finding safer ways of fueling our growth and development. We've plotted our course without realizing how much we depend on the flourishing of the rest of life, and the more we learn of how ecosystems work, the more we know one act at one edge of the system impacts the rest of the system in ways we can hardly comprehend.

We may not sing the Earth into being, but we sing our parts in the whole chorus only if we know the rest of the music. We're going to be changing our tune, but each new part still has to fit in with the rest. If nature is never going to depend on us, more than ever we must depend on it, especially if we want to be more than a curious footnote in evolutionary history.

Maybe we are alone in the universe, the one species that is not needed because we can think and choose too much. Like all dominant species, one day we are bound to fail. But it's too easy to become stymied by such a thought, as there are still so many paths we have to try, so many possibilities for depending on the rest of the world. Maybe such dependence is only of value to us, as the world neither smiles not acknowledges us back. There is still so much more our species can do! Thousands, maybe hundreds of thousands of years of possibility. Let's reach out and strive to understand more.

David Rothenberg is the author of *Thousand Mile Song: Whale Music in a Sea of Sound*, *Why Birds Sing: A Journey through the Mystery of Bird Song*, *Sudden Music: Improvisation, Art, Nature*; *Always the Mountains*; *Hand's End: Technology and the Limits of Nature*; and others. He was the editor of the journal *Terra Nova: Nature & Culture*, and has edited the various *Terra Nova* books based on the journal. He is also a composer and jazz clarinetist, and has six CDs. David is professor of philosophy and music at the New Jersey Institute of Technology.

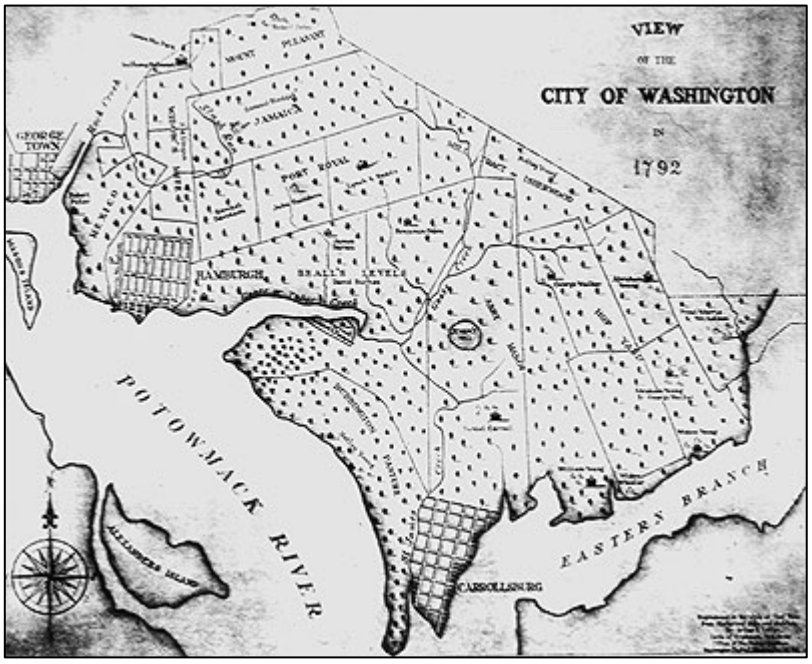
Column: A Stone's Throw

by Lauret Savoy, *Terrain.org* Editorial Board Member

Placing Washington, D.C., before the Inauguration

The lower Potomac River is a large tidewater tributary of the Chesapeake Bay that separates much of Maryland from Virginia. Upstream from its mouth the wide channel bends and narrows west and north to the fall line, the boundary between the low coastal plain and ancient bedrock Piedmont. Above this point, which is the head of navigation, rapids and falls are common.

My father's people made a home on the tidewater and Piedmont lands of Maryland and Virginia. Four generations of his paternal forebears, from the early 1800s on, lived at the Potomac's fall line because the District of Columbia was there.



Cadastral map of the City of Washington in 1792, showing land tracts and the townsites of Georgetown, Hamburgh, and Carrollsburg.
Graphic courtesy U.S. Library of Congress.

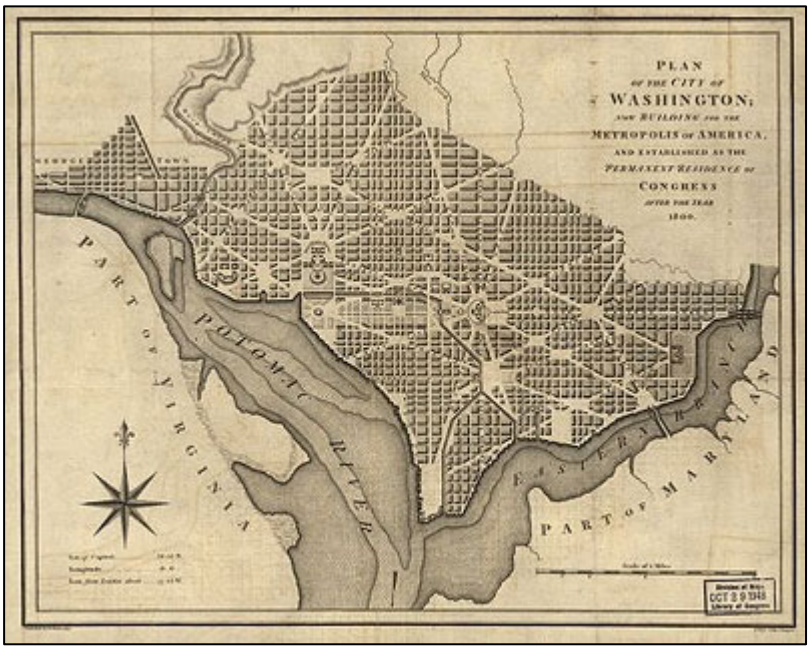
I write these words late in December, less than a month before inauguration day. On January 20, 2009, with more than four million people expected in Washington, D.C., Barack Obama will be sworn in as the 44th President of the United States, and the first African American in this office. Millions of people watching the events on television will witness tradition and pageant: the oath of office taken on the Capitol steps, the new president's inaugural address, and then the parade along Pennsylvania Avenue to the White House. Glimpses of monuments and memorials in downtown Washington might be familiar reminders of national promise.

But Washington, D.C., has always been a contested place of paradox and contradiction. Unlike the capitals of most other nations, the district was established distant from the country's economic, intellectual, or cultural centers—its unlikely origins and location as the seat of government due to political machinations and deal-making. And this invented capital long held a "secret city," a large population of enslaved and free African Americans. By condoning both chattel servitude and the

"slave" trade within its borders for more than half a century, Washington, D.C., in its actual life had an uneasy relationship with aspired-to national principles or ideals. The eve of the presidential inauguration seems an appropriate time to reconsider its historical landscapes.

The Constitution authorized a district of up to ten miles square be established as the permanent seat of the new federal government. Public history tends to continue like this: In July 1790, Congress passed the Residence Act, empowering President George Washington to choose a site along an 80-mile stretch of the Potomac River "between the mouths of the Eastern Branch [Anacostia River] and the Connogochegue." Whether developed or not the site would replace Philadelphia as the capital in 1800.

But public history sometimes fails to mention the backstory, the *why* behind the geography of the seat of government. Put simply, the president wanted the capital embedded in the South, not too distant from his plantation in Virginia.



Plan of the City of Washington, dated 1793, and reading "now building for the Metropolis of America, and established as the permanent residence of Congress after the year 1800."
Graphic courtesy U.S. Library of Congress.

As Garry Wills and other historians have pointed out, it was difficult for a "slave" holding president, or other federal official, to live in his accustomed manner in places like Philadelphia, the capital in the 1790s and a city known for antislavery sentiments. The permanent home of the federal government had to be located in a region friendly to, and unquestioning of, slavery. In fact, before the Civil War, most of the American presidents, as well as members of the Supreme Court and Senate, were substantial holders of "slaves," and no "northern" president before Abraham Lincoln seriously challenged such interests.

With President Washington somewhat in the background, Secretary of State Thomas Jefferson and others worked to fulfill the president's wish, subverting Congressional authority and minimizing debate on alternative sites. Thus, the land that became the District of Columbia was ceded by Maryland and Virginia at the Potomac River's head of navigation. At the time (1790), the two states held more than half the entire nation's enslaved population.

The new District of Columbia was to include two thriving commercial river ports: Alexandria (from Virginia) and Georgetown (from Maryland). Downstream of Georgetown, within the Maryland side of the district, the new City of Washington would also include the small townsites of Hamburgh near the mouth of Rock Creek and Carrollsburg on the Eastern Branch. But Chesapeake tobacco agriculture really defined the tidewater landscape that was to become the federal city. Woodlands separated cleared fields of more than twenty plantations and farms worked largely by enslaved labor, according to John Michael Vlach, a scholar on the architecture of slavery.

The new city began on cultivated fields, forested tracts, and tidal-river lowlands and swamps. The White House was built on David Burnes's tobacco plantation. The Capitol was constructed on Jenkins Hill, within a large estate owned by Daniel Carroll. Goose or Tiber Creek flowed where Constitution Avenue now runs, emptying into the Potomac River where the monument grounds now sit. (The land to the west and south was made only in the late 1800s by filling the tidal river's edge with sediment dredged downstream.)

By the early 1800s, views of the City of Washington boasted muddy or dusty roads (depending on the weather), scattered habitable buildings, partly built structures, and many abandoned projects, in addition to farms and woods. As Englishwoman Harriet Martineau recalled in her *Retrospect of Western Travel* (1838):

> The city itself is unlike any other that was ever seen, straggling out hither and thither, with a small house of two a quarter of a mile from any other; so that, in making calls "in the city," we had to cross ditches and stiles, and walk alternately on grass and pavements, and strike across a field to reach a street.

"Slave Market of America," a large broadside condemning slavery and the "slave" trade in the District of Columbia, published by the American Anti-Slavery Society in 1836.
Graphic courtesy U.S. Library of Congress.

Government officials spent as little time there as possible, especially during hot, humid summers when insect- and water-borne diseases were likely. Congress supposedly worked only after the harvest and before planting season. Resignations were very common, as were proposals to move the capital to a more hospitable location.

After nearly fifty years Washington city was still in process of becoming a city. Andrew Mackay, a visitor from Scotland, saw in 1846 "ever and anon a street just begun and then stopped, as if it were afraid to proceed any further into the wilderness."

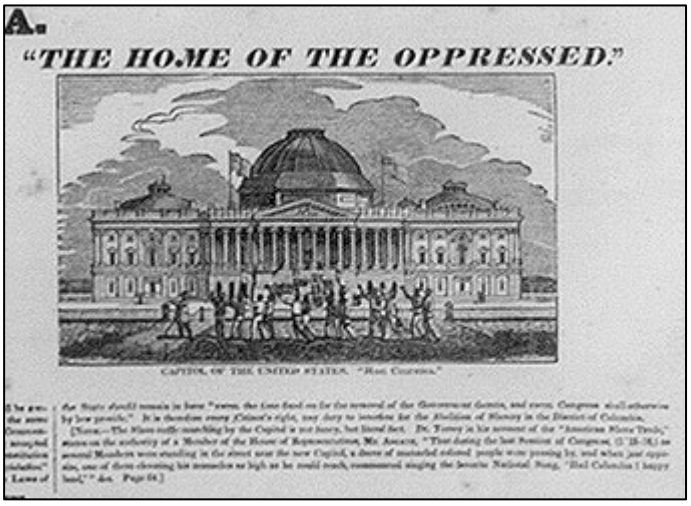
Charles Dickens's ridicule from an 1842 visit is more telling:

> It is sometimes called the City of Magnificent Distances, but it might with greater propriety be termed the City of Magnificent Intentions…. Spacious avenues, that begin in nothing and lead nowhere; streets, mile-long, that want only houses, roads, and inhabitants; public buildings that need but a public to complete; and ornaments of great thoroughfares, which only lack great thoroughfares to ornament—are its leading features…. To the admirers of cities it is a… pleasant field for the imagination to rove in; a monument raised to a deceased project, with not even a legible inscription to record its departed greatness.

Such as it is, it is likely to remain.

Slavery was embedded in the District of Columbia's founding and daily business for seven decades. Nearly a quarter of the district's population in 1800 were African Americans, most enslaved. They not only worked the tobacco land, but largely built the White House and Capitol. (One can still find federal pay-stubs from that time, directing compensation to "owners" for the enslaved labor.) They also worked as domestic servants, and as skilled and unskilled laborers throughout the slowly growing urban area.

After the Constitutional ban on importing enslaved Africans went into effect in 1808, planters in the deep South sought enslaved labor interstate, particularly after cotton booms. Tobacco planters in tidewater Maryland and Virginia who had exhausted their soil's productivity responded by selling or renting their enslaved "property." The District of Columbia soon became a large and notorious market depot between the Chesapeake and lower South, what historian John Hope Franklin once called "the very seat and center of the slave trade."



Enlargement of the "Slave Market of America," noting "The Home of the Oppressed," with those enslaved being led past the capitol by an overseer.
Graphic courtesy U.S. Library of Congress.

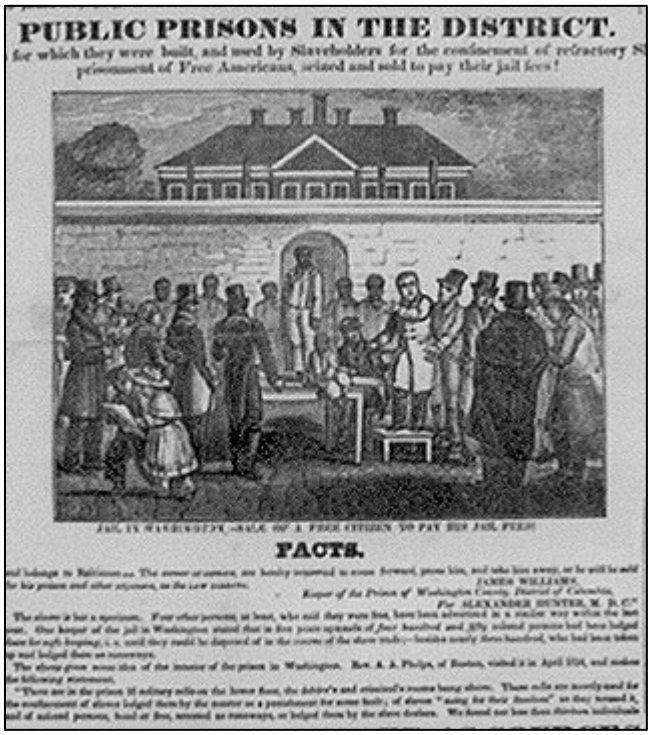
But neither slavery nor the trade existed easily in Washington. Because Congress had jurisdiction over the district, abolitionists claimed it could ban slavery and the trade there. (The first issue of the *Liberator* ran front-page articles on the D.C. trade.) The southern counter-argument was that Maryland and Virginia would never have ceded land for the capital if slavery weren't protected by law, as it was it those states.

Some residents repeatedly petitioned Congress for bans in the first half of the 19th century. What is unique is that the district's antislavery community was probably the southernmost cell of organized abolitionist activity, and one of extensive cooperation among free African Americans and white residents. In 1846, Congress ceded Alexandria back to Virginia, partly due to efforts of traders fearing a ban in the District of Columbia.

As part of the Compromise of 1850, northern legislators were able to get a resolution approved that prohibited importing slaves from other states into D.C. for sale. But this ban did not end the within-city trade or slavery itself, and interstate trade simply shifted to Alexandria. Congress didn't outlaw slavery in the district until 1862, during the war.

The landscape and architecture of this urban slavery are often overlooked. Pens for holding enslaved people in transit were common sights throughout the district, even from the windows of Congress. Some of the city's most notorious pens and markets were located on the Mall and in sight of the Capitol and other federal buildings. Edward Coles, President Madison's secretary, worried in 1809 that foreign visitors and diplomats would witness "such a revolting sight" as "gangs of Negroes, some in chains, on their way to a Southern market."

Although most physical signs of urban slavery, like the pens, were torn down as the city grew after the Civil War, remnants can still be seen. Outbuildings behind old, stately residences, according to Vlach, are but a few remaining examples of "slave" quarters and work areas that both separated and controlled the geography of movement of those enslaved.



Enlargement of the "Slave Market of America," noting "Public Prison in the District," with "sale of a free [African American] citizen to pay his jail fees."
Graphic courtesy U.S. Library of Congress.

Decatur House, one of the oldest surviving residences in the city, sits across Pennsylvania Avenue from the White House, on the northwest corner of Lafayette Square. Around 1839 John Gadsby, the home's second owner and a "slave" dealer, constructed a two-story building behind the original house as working and living quarters for his many enslaved servants. (Unverified legend has it that Gadsby may have traded from pens at his home.) Just blocks from the Capitol, an old plantation house (now called Friendship House) and a weathered brick building that served as "slave" quarters are what remain of The Maples or Maple Grove plantation.

For me the District of Columbia's history frames more personal stories of people-in-place I don't yet fully know. My father's ancestors, most of them African Americans with the blood of Europe and perhaps Native America, were likely there because of tobacco plantations, indentured servitude, enslavement, and freedom.

But the past of Washington landscapes—even if unrecognized or poorly understood—is not remote or without impact on America's present. Some say that slavery is a distant past best forgotten in order to "move on." Some might say this presidential inauguration, two-hundred years after Abraham Lincoln's birth, could be a marker of a new post-racial society. Yet it's impossible to understand or tell this nation's story without understanding the hand-in-glove fit of chattel labor and the country's growth as an independent economic and political power in the world. And the America of today certainly is not yet post-racist, because too many of the ignorant assumptions that both rationalized slavery and stemmed from it still exist.

Perhaps understanding the presence of the past requires self-acknowledgment of origins. To recognize that history is not a grand story about individuals or of particular choices or events, but of intricate relationships across time and space—and to know the after-effects of such relationships in our present. Even old drainage patterns of filled-in streams still exist beneath pavement, concrete, and Washington's buildings.

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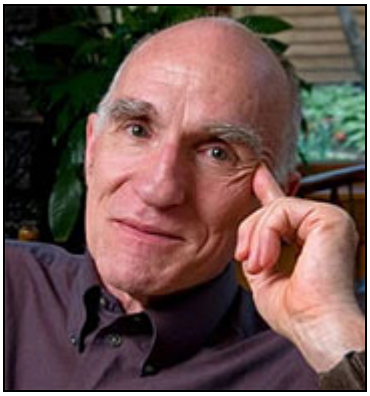
Lauret Savoy writes and photographs across threads of cultural identity to explore their shaping by relationship with and dislocation from the land. A woman of African-American, Euro-American, and Native-American heritage, she is a professor of environmental studies and geology at Mount Holyoke College. Her books include *Bedrock: Writers on the Wonders of Geology*, *The Colors of Nature: Culture, Identity and the Natural World* (second addition due out at the end of 2009), and *Living with the Changing California Coast*.

Interview

Terrain.org interviews author Scott Russell Sanders



Scott Russell Sanders.
Photo by Steve Raymer.

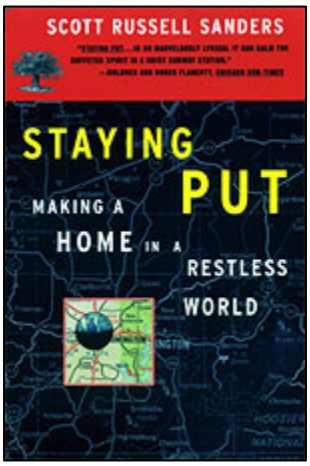
About Scott Russell Sanders

Scott Russell Sanders was born in Memphis, Tennessee, in 1945. His father came from a family of cotton farmers in Mississippi, his mother from an immigrant doctor's family in Chicago. He spent his early childhood in Tennessee and his school years in Ohio. He studied physics and English at Brown University, graduating in 1967. With the aid of a Marshall Scholarship, he pursued graduate work at the University of Cambridge, where he completed his Ph.D. in English in 1971. Since 1971 he has been teaching at Indiana University, where he is a Distinguished Professor of English.

Among his more than twenty books are novels, collections of stories, and works of personal nonfiction, including *Staying Put*, *Writing from the Center*, and *Hunting for Hope*. His latest book is *A Private History of Awe*, a coming-of-age memoir, love story, and spiritual testament, which was nominated for the Pulitzer Prize. *A Conservationist Manifesto*, his vision of a shift to a sustainable society, will be published in 2009.

He has received the Lannan Literary Award, the Associated Writing Programs Award in Creative Nonfiction, the Great Lakes Book Award, the Kenyon Review Literary Award, and the John Burroughs Essay Award, among other honors, and has received support for his writing from the Lilly Endowment, the Indiana Arts Commission, the National Endowment for the Arts, and the Guggenheim Foundation. In 2006 he was named one of five inaugural winners of the Indiana Humanities Award. The Society for the Study of Midwestern Literature recently named him the 2009 winner of the Mark Twain Award.

His writing examines the human place in nature, the pursuit of social justice, the relation between culture and geography, and the search for a spiritual path. He and his wife, Ruth, a biochemist, have reared two children in their hometown of Bloomington, in the hardwood hill country of Indiana's White River Valley.



Interview

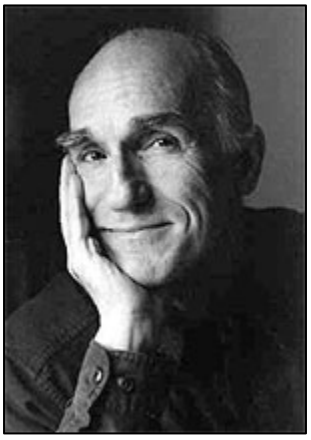
Terrain.org: Since 1971 you have taught English at Indiana University, but have also held writer-in-residence, visiting scholar, and workshop instructor positions at other schools and programs. How important is it to have a teaching "base"—a position, location, and perhaps a kind of routine—you can return to? How do extracurricular teaching activities—such as instructing at the Wildbranch Writing Workshop at Sterling College in Vermont, which mostly serves an older group of aspiring writers—support your teaching of college students? Or vice versa?

Scott Russell Sanders: I'm grateful to have had a teaching base at Indiana University since 1971, for this has provided me not only with steady employment but also with a home ground. Because I've earned a paycheck all these years, I have been able to write only what I was moved to write. I've never had to pay the bills with my books. (And a good thing, too, or my family would have been hard up.)

In *Staying Put*, I explained why it has been important for me to put down roots, to become intimate with a local geography and culture. My place happens to be the hardwood hill country of southern Indiana, which suits me well. But had employment or marriage set me down in some other place, I would have had the same impulse to commit myself wholeheartedly. At the same time, I welcome the chance to lecture, give readings, and lead workshops away from home. These journeys take me to colleges, libraries, community centers, national parks, and wilderness areas from coast to coast, from Alaska to Florida, and even occasionally to Europe.

Scott Russell Sanders (center) with students at the 2008 Wildbranch Writing Workshop in Craftsbury Common, Vermont. Photo by Kate Hofmann.

I have misgivings about the ecological cost of this travel, and I have made efforts to reduce that



cost. And of course being on the road so much disrupts my writing. At the same time, such journeys enlarge my vision, bring me into contact with some remarkable people and places, and feed me insights that I can take back home. By traveling, I also hope to serve the causes I believe in, and to nurture other writers.

Terrain.org: Speaking of Wildbranch, in 2008 you taught with David Abram, Janisse Ray, and Sandra Steingraber, who like you write passionately and distinctly about community, environment, and spirit. Though I realize you probably don't share your draft work with these writers, is there nonetheless a kind of "writer's community" or continuing conversation among the Wildbranch writers, or the broader spectrum of writers actively writing about community and environment? Does an organization like The Orion Society, with *Orion* magazine—the sponsor and organizer of Wildbranch now—facilitate ongoing conversations? What is the overall importance of community for writers—connections among writers and, more broadly still, connections between writers and the people of the places they write about?

Scott Russell Sanders: Friendships with other writers have been vital to my own development and to my sense of purpose. And not just any writers, but specifically those whom I have met through Orion, Wildbranch, the Sitka Symposium, the Trust for Public Land, the Spring Creek Project, the Center for Whole Communities, and other organizations devoted to caring for the earth and caring for people. I could name 50 writers whose conversation, correspondence, and example have been instructive for me. The value of these friendships is not so much practical as intellectual and emotional: We challenge one another to think more deeply about the human place in nature, about the role of art in fostering cultural change, and about the way of life we should work toward.

Among the general run of American writers, as in our society as a whole, there is relatively little regard for other species, little awareness of the dire condition of the planet, little concern with envisioning a more humane, peaceful, conserving, and spiritually rich alternative to our consumer culture. So anyone who sets out to challenge the reckless binge known as the "American way of life" is apt to feel mighty lonely, unless he or she can find allies. The most important of my allies I have come to know through Orion, which has sponsored gatherings for writers, national and regional conferences, reading tours, and other activities aimed at building up this community. I'm deeply indebted to their work.

Terrain.org: In *Hunting for Hope*, you write that students "are asking me if I believe we have the resources for healing the wounds, for mending the breaks. They are asking me if I live in hope." In *A Private History of Awe*, as you began teaching during the Vietnam conflict and just after the civil rights movement, you note how students asked the same question: What hope can we have in such troubling times?

Hunting for Hope explores that fundamental question, but how have the students themselves changed in the three decades since then? Are students today more or less oriented toward action? Has technology made a difference? Is hope more difficult to instill now for young people even though it is as essential as ever (and perhaps more so)?

Scott Russell Sanders: Two years ago, I might have answered this question differently; I might have lamented the widespread apathy toward social and environmental challenges on the part of young people. Now, however, I see signs everywhere of a new engagement and a renewed idealism, and not only among the young. The shift has been due in part to the words and example of Barack Obama and Hillary Clinton during the 2008 presidential campaign, and to Obama's success in the election. My students and my own children, who provoked me to write *Hunting for Hope*, have been inspired to believe that we can address our challenges in a spirit of cooperation and compassion, bringing to bear the best of science, public policy, creativity, and intelligence.

Abandoned limestone quarry near Bloomington, Indiana.
Photo courtesy Bloomington/Monroe County Convention and Visitors Bureau.

The shift toward hopefulness, I believe, is also part of a spontaneous worldwide uprising of efforts aimed at restoring the earth and alleviating human suffering—efforts chronicled recently by Paul Hawken in *Blessed Unrest*. While technology has contributed to our current dilemmas—automobiles, nuclear weapons, toxic chemicals, on and on—it has also provided us with tools for monitoring the condition of the earth, for modeling global systems, and for communicating our findings around the planet at the speed of light. I don't believe that the Internet is a panacea—it's mostly used for merchandising and pornography and gossip—it does offer a powerful medium for thinking collectively about our common concerns. No one with access to the Internet need feel isolated or helpless. Whether we as a species are capable of changing our ways fast enough and radically enough to avert disaster is still an open question for me. No matter how long the odds, however, I know the sort of future I wish to serve, and I know that countless others, across our nation and around the world, are serving a similar vision. That solidarity gives me hope.

Terrain.org: From *Staying Put* and *A Private History of Awe*, we learn how your family is not only subject matter but also the impetus for reflection—your inspiration. Who are your literary influences and inspirations? Do you have any political influences? Teachers who made the largest impact in your life? What about place as inspiration, and specifically—as in *Hunting for Hope* with hiking trips to the Rocky Mountains and Great Smoky Mountains—place as an impetus for change?

Scott Russell Sanders: There are more questions bundled together here than I am going to be able to answer adequately, I'm afraid. It's true that my kinfolk—my parents, my wife, my children, my in-laws—have often moved me to write. I have traced some of that influence in *A Private History of*

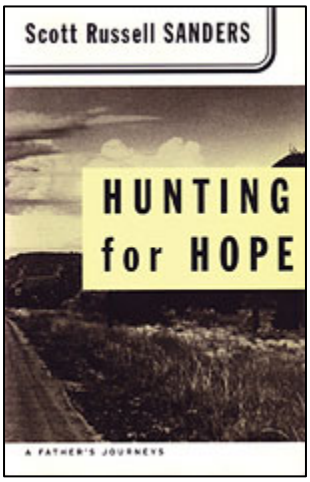
Awe. I've also been inspired by ongoing conversations with friends, and in gratitude I've dedicated books to a number of them. In *Awe*, as well as *The Country of Language* and *Staying Put*, I've written about some of the teachers who've inspired me. It's likewise true that I have often been moved to write by encounters with natural lands—the Ohio River, the Boundary Waters Wilderness of Minnesota, Glacier Bay in Alaska, the coast of Oregon, the limestone region of southern Indiana, Mt. Saint Helens, and the Rocky and Smoky and Cascade Mountains, but I've also written, if less often, about cities, such as Cambridge, Providence, Chicago, Memphis, and my own hometown of Bloomington. Wild lands give me a measure of what healthy places might be like, and vital cities give me a sense of the sort of communities we should create.

Terrain.org: In *Hunting for Hope*, you write, "Asking what good are eagles and owls, or ebony spleenworts, or black-footed ferrets, or snaildarters, or any other of our fellow travelers, is like asking what good are brothers and sisters, or children, or friends. Such questions arise only in the absence of love." Later in the book, you note that "In order to live in hope we needn't believe that everything will turn out well. We need only believe that we are on the right path." Both of these eloquent verses remind me of strong passages in Aldo Leopold's *A Sand County Almanac*. Has Leopold been an influence on your work? When did you first read his classic book?

Scott Russell Sanders: Aldo Leopold has been a strong presence for me, ever since I first read *A Sand County Almanac* in 1978, in an edition that included the Round River essays. Since then, I have returned to that work many times, often in conjunction with my teaching, and I have read additional essays as they have been published. I wrote a foreword for one recent collection, *For the Health of the Land*, edited by J. Baird Callicott and Eric T. Freyfogle. And in the summer of 2009 I will be teaching in a National Humanities Institute devoted to Leopold.

Aldo Leopold in his Wisconsin farm. Photo courtesy Aldo Leopold Foundation.

I value the way he combines a scientific outlook with literary skill and practical work on the land. He didn't just study nature as an ecologist, and didn't just write about nature as an essayist; he rolled up his sleeves and *worked* on the land, striving to restore fertility to a farmed-out patch of Wisconsin, guiding the preserve in Madison, advising hunters and farmers about best practices. He was a good enough scientist, and humble enough, to change his mind in light of experience—to realize that forests are not merely standing "timber," that predators such as wolves play a crucial role in the web of life, that wilderness embodies irreplaceable values, that *all* animals and not merely those hunted for "game" are worthy members of the land community, and that even the lowliest plants deserve our attention. He enabled us to think of ourselves as members of the land community, members who happen to be endowed with cleverness and tools, and who are therefore all the more responsible to act as caretakers. He framed our abuse of the land as a *cultural* problem, one that requires us to enlarge the scope of our ethics, to challenge an economic system based on perpetual growth, and to

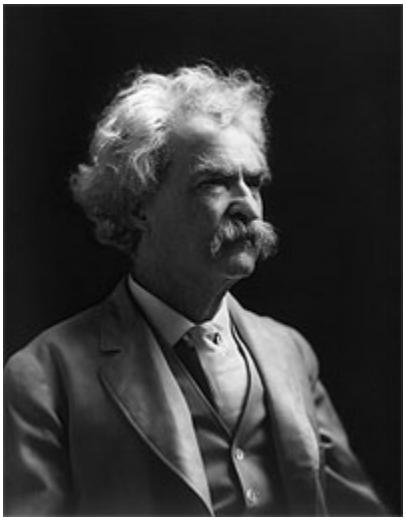


live more conservingly.

Terrain.org: Whether literary or visual, performance or two-dimensional, in art we often speak of the pursuit of truth, and how truth may be acquired through beauty. Or perhaps they are the same? In *Hunting for Hope*, you write, "A universe so prodigal of beauty may actually *need* us to notice and respond, may need our sharp eyes and brimming hearts and teeming minds, in order to close the circuit of Creation." Could you please elaborate on this idea? Is that need original or evolved, or both? Is art but one of our responses?

Scott Russell Sanders: Certainly art is only one of our responses to the universe—although it is a precious and versatile one. We respond to the majesty and mystery of the universe through science and mathematics, through storytelling, through every medium of expression, from language to architecture. What I offer in that passage from *Hunting for Hope* is only a wild conjecture. In using the word "Creation," I beg the question of who or what might have created the cosmos, and might therefore feel some curiosity about what two-legged mites on a dust mote of a planet make of the whole show. Talking about such a possibility inevitably requires the use of human analogies—such as "feel some curiosity"—and it risks smuggling an anthropomorphic God back into the equation.

Although I was reared in a branch of Christianity that envisions the world as governed by a benevolent, omnipotent deity who cares personally about human beings and who guarantees our immortal life, I have long since given up believing in such a potentate. However, I still suspect—and maybe this is only a stubborn theism—that the universe is not an accident, that the existence of life reveals something profound about the nature of our grand home, and that the emergence of consciousness, in other creatures as well as in humans, may be essential to the unfolding story. Essential how? I don't pretend to know. The cosmos seems to me more like a *mind* than like a collection of material objects. If the tangible world is a manifestation of some all-embracing consciousness, then what we call "mind" is fundamental and what we call "matter" is derivative. And if that is the case, then the products of mind—science, music, literature, painting, speech—may be our way of participating in the self-awareness of the cosmos.

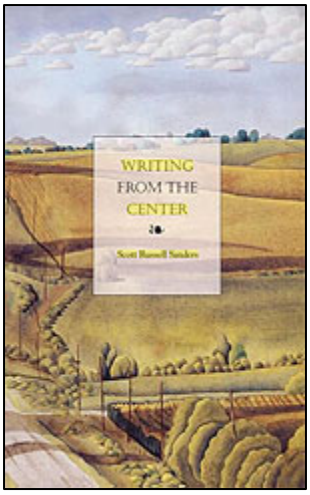


Terrain.org: In May you will be awarded the 2009 Mark Twain Award for "distinguished contributions to Midwestern literature," which has been previously awarded to Toni Morrison, Ray Bradbury, Gwendolyn Brooks, and others. Do you consider yourself a Midwestern writer, an American writer, an Earth writer? How has your work been received beyond North America? And how do you think your time in England, beautifully detailed in *A Private History of Awe*, lends to where you are "from" and what places you represent?

Scott Russell Sanders: I think of myself as a writer grounded in southern Indiana, with a lifelong connection to the Midwest, and with interests and concerns that span the continent and the planet. Despite those planetary concerns, I wouldn't claim to be an "Earth" writer. I'm not cosmopolitan enough to wear such a label. I treasured my four years in England, which taught me a great deal, especially about the influence of history and long-term human inhabitation, and I have learned much from other travels abroad, mainly in Europe.

Although portions of my work have been translated into half a dozen languages, and I receive a modest stream of email from readers in other countries, my knowledge and affections attach to places within the U.S. I'm certainly an American writer, in the sense that my language, my geographical references, and my primary influences are very much "in the American grain," as William Carlos Williams defined it. The "Midwest" is a vast and varied region—stretching roughly from the Allegheny Mountains in the east to the Rocky Mountains in the west, from the Great Lakes in the north to the edge of the glacial plain in the south—and ranging from dense hardwood forests through rolling grasslands to high plains and desert. Nobody can speak for such an immensity.

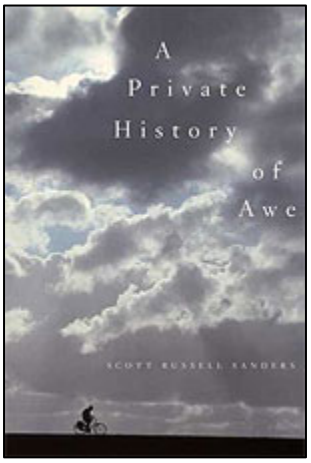
Still, I feel at home in this sprawling, low-lying, often neglected heartland. Like other writers in the Midwest, I suppose I have paid a price for living far from the cultural power centers on the Atlantic and Pacific coasts. But in compensation I have had the opportunity to write about a region that has been largely absent from our literature.



Terrain.org: In May 2008 you provided "A Citizen's View on the State of the Union" in a lecture in Bloomington, Indiana, as a kind of response to the President's State of the Union Address. Though it was an endorsement for Barack Obama for President, it was more basic, less overtly political. "I speak as an ordinary citizen who loves our country and believes we ought to be behaving far better, as a nation, than we have been doing over these past seven years," you said. What has the response to your State of the Union been? Your writing has long addressed issues of morality, integrity, and community—issues that for better or worse are finding themselves in the political arena—yet has the reaction to "Citizen's View" differed from reactions to your other recent work?

Scott Russell Sanders: I know from correspondence and anecdote that my "Citizen's View" has been picked up and passed along through the Internet, duplicated and handed out at meetings, and otherwise distributed fairly widely. While I supported Barack Obama in the recent election, in my talk I was, as you say, concerned with issues that transcend any particular candidate, party, or campaign. I was offering my own vision of the state of our Union, a vision far less sanguine than the one offered by President Bush. Because America has such a powerful influence on the rest of the world—through our economy, our mass media, our military, our diplomacy—the priorities and behavior of our nation have a disproportionate impact on the whole planet.

If there is a tone of urgency in "A Citizen's View," it is because I feel we face grave choices as a



people, and we have little time left to choose a less destructive way of life. I suppose you can hear the same urgency in the title of my next book, *A Conservationist Manifesto*, which is to be published by Indiana University Press in spring 2009.

Terrain.org: Flannery O'Connor said, "No discovery in the writer, no discovery in the reader." In responding to a question about creative nonfiction in a recent interview in *The Writer's Chronicle*, you said, "Facts are data; truth is the sense we make of the data. And the sense we make should always be open to revision, to new evidence, to further discovery." Talk a bit about discovery as it applies to your writing, your observing. Has your sense of discovery, perhaps the "process" for discovery, changed as you've become a father, a caregiver of aging parents, and a grandfather—and as you've written more? Is a certain amount of experience, or time or patience or contemplation, required for discovery to take hold?

Scott Russell Sanders: I believe that the act of writing, in any genre, is a process of discovery. This is especially true of the essay, which, as I understand it and try to practice it, is a medium for asking questions of experience, for investigating some aspect of the world, for exploring. The more experiences you've lived through, the more material you have to draw on, and, you hope, the better informed your judgment; and as you age, those assets help compensate for the decline in energy and the dimming of imagination. The writer is drawn on through the hard labor of writing by the prospect of making discoveries, which may occur at the level of language—in an image, a metaphor, a turn of phrase—or at the level of insight, idea, form, or meaning. Writing filled with such discoveries conveys a sense of adventure and excitement to the reader.

Terrain.org: In that same interview, you note that "… the more deeply one reflects about one's own life, the more one realizes one's connections to other people, other species, other times." In an age in which it seems there's precious little time to reflect on one's own life—let alone deeply reflect—how do we find that time? What role can literature serve in helping with our deep reflection? As a teacher, how do you encourage students to seek that reflection?

Scott Russell Sanders: I do fear that we are losing the capacity, in our wired age, for deep reflection, for patient observation, for thoughtful action. Thoreau wrote that he set up house for a spell beside Walden Pond in order to live *deliberately*—to deliberate about the meaning and conduct of his days. By contrast, we tend to live hectically, racing from one activity to another, hustling from sensation to sensation, everything speeded up by technology and an excess of money. Readers might balk at the claim that too many of us have too much money.

But consider for a moment. Could we drive, fly, jog, shop, log-on, plug in, eat out, move house, go to meetings, and take part in a host of other frenetic activities if we were genuinely poor? There is excitement in this frenzy. I often give into it myself. But when I emerge from a flurry of activities, I feel jaded and blank, as if for a spell I had become a puppet jerked around by distant powers. It's also clear that the earth is paying a huge, unsupportable price for our mania. Along with many other observers, over the years I have noticed a decline in reading by students.

It's not just that many students never read books, magazines, or newspapers for pleasure or illumination; increasing numbers of them *can't* read anything that requires sustained attention and extensive memory. They have become accustomed to taking in words, lyrics, images, and scenarios in bits, and few of them seem able to combine those scraps into coherent wholes. I worry about the decline in reading not only because I love books, but because I'm convinced that we need the kinds of knowledge that can only be delivered in a work as large and complex as a book. One can't understand or respond to global climate disruption, for example, or the erosion of civil liberties in America, or the causes of our war in Iraq, or the texture of life in an age and a place quite different from one's own merely by reading factoids and isolated paragraphs.

When I'm asked, as I often am, how we can "find the time" to live more reflectively, I urge people to wean themselves for some part of the day from electronic media.

Terrain.org: Along with Alison Hawthorne Deming, Rick Bass, Lauret Savoy, and others, you have an essay in response to the Earth Charter in the new book *A Voice for the Earth*. How did you get involved with that project? The Earth Charter, which has the mission of addressing the economic, social, political, spiritual, and environmental problems confronting the world, is now more than eight years old; in your personal experience, how is the Charter addressing its mission?

Scott Russell Sanders: I wrote "Wilderness as a Sabbath for the Land," my essay in *A Voice for Earth*, as a defense of the Arctic National Wildlife Refuge and other wilderness areas, which are under constant pressures from the various extractive industries. The essay was originally published in *Arctic Refuge: A Circle of Testimony*, edited by Hank Lentfer and Carolyn Servid. A significantly expanded version was then published in a journal called *Spiritus*.

When I was invited by Peter Blaze Corcoran, one of the editors of *A Voice for the Earth*, to contribute an essay to that volume, I revised "Wilderness as a Sabbath for the Land" yet again, this time including references to the Earth Charter. I was drawn to the project because I regard the Earth Charter as one of the most hopeful expressions of our collective intelligence yet to emerge. It's not perfect, of course. But within a short space it goes a long way toward integrating a concern for the wellbeing of people with a concern for the wellbeing of other species and the planet. Of course, words alone are not enough to bring about the necessary change. And yet, by articulating ideals of peace, justice, and stewardship, the Earth Charter may inspire millions of people to work toward those ideals.

Terrain.org: You've said that nature is everything in the universe that humans didn't make, and also the raw material for everything that humans do make. "At its simplest," you said, "it means the out-of-doors." What about the built environment—a barn or house, farm or neighborhood, a city? How do you see human-created places as a part of nature, even if not a part of "wildness?"

Scott Russell Sanders: The nature of "nature" is an ancient puzzle, which has stumped writers far more philosophically astute than I am. I've done my share of puzzling in several books, including novels such as *Terrarium*, *The Engineer of Beasts*, and *Bad Man Ballad*, and in nonfiction works such as *Hunting for Hope* and *A Conservationist Manifesto*. Here I'll just acknowledge the dilemma.

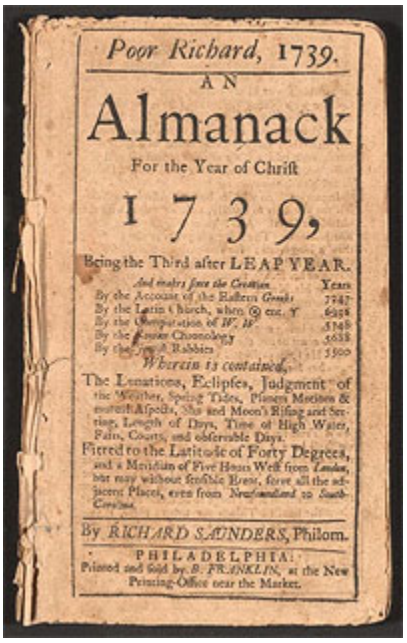
If we define nature as wild animals and plants, forests and rivers and mountains—everything *out there*—then we set humankind and its works apart, and that is a damaging illusion. If we define nature as the whole evolving cosmos, with us as a part of it, that comes closer to the truth, but it creates a dilemma for ethics. If humans are simply nature, then everything we engage in is natural, including rape, murder, incest, and war; everything we make is natural, including plutonium bombs and Styrofoam and Hummers. I'm not willing to give up making ethical judgments.

But where do my ethical standards come from? *A Private History of Awe* offers an extended answer to that question, by tracing the development of my values in relation to personal and public history. Loving the "natural" world does not prevent one from loving much of the human-fashioned world. I say "much," because I don't love our works uncritically. I admire human artifacts that show great skill and elegance, that serve real human needs (including the needs of the spirit), and that cause little or no damage to the earth—Shaker furniture, Zuni pots, post-and-beam barns, four-square houses, tools for carpentry and masonry and cooking and sundry other crafts, certain towns, countless books and paintings, scientific instruments, bicycles, stories, on and on.

Zuni pot by Noreen Simplicio featuring a deer with heart line, and the artist's unique presentation of a pueblo community on top.
Photo courtesy First Peoples Shop.

Terrain.org: Your newest book, *A Conservationist Manifesto*, publishes in April. Tell us about that book.

Scott Russell Sanders: The book addresses what I take to be the single greatest challenge facing our society, which is to shift from a culture based on consumption to a culture based on conservation, from recklessness to caretaking. At present, merchants and mass media, politicians and pundits, agree in defining us as consumers, as if the purpose of life were to devour the world rather than to savor and preserve it. What I propose instead is that we imagine ourselves as conservers, as stewards of the earth's bounty and beauty. However appealing consumerism may be to our egos, and however profitable it may be for business, it's ruinous for our planet, our communities, and our souls. The book argues that a conservation ethic is crucial to addressing such threats as the disruption of global climate, the tattering of the ozone layer, the clear-cutting of forests, the poisoning of lakes by acid rain, the collapse of ocean fisheries, the extinction of species, the looming shortages of oil and fresh water, and the spread of famine and epidemic disease.


Poor Richard, 1739.

AN

Almanack

For the Year of Christ

1739,

Being the Third after LEAP YEAR.

And makes since the Creation Years

By the Account of the Eastern Greeks 7247

By the Latin Church, when ♋ ent. ♈ 6938

By the Computation of W. W. 5748

By the Jewish Chronology 5638

By the Jews & Rabbies 5500

Wherein is contained,

The Lunations, Eclipses, Judgment of the Weather, Spring Tides, Planets Motions & mutual Aspects, Sun and Moon's Rising and Setting, Length of Days, Time of High Water, Fairs, Courts, and observable Days.

Fitted to the Latitude of Forty Degrees, and a Meridian of Five Hours West from London, but may without sensible Error, serve all the adjacent Places, even from Newfoundland to South-Carolina.

By RICHARD SAUNDERS, Philom.

PHILADELPHIA:

Printed and Sold by B. FRANKLIN, at the New Printing-Office near the Market.

A Conservationist Manifesto seeks to extend into our own time the tradition of thought we associate with such visionaries as Carson, Leopold, Muir, and Thoreau. It also seeks to honor and uphold the heritage of restraint we can trace back through the frugal habits of the Depression and wartime rationing, through agrarian thrift and frontier ingenuity and the prudent advice of Poor Richard's Almanack; back through the Quakers and Puritans, with their emphasis on material simplicity; and even farther back to the indigenous people who inhabited this continent before it was called America. I want to show that the practice of conservation is our wisest and surest way of caring for our neighbors, for this marvelous planet, and for future generations.

Terrain.org: After your work to promote *A Conservationist Manifesto*, what's next for Scott Russell Sanders?

Scott Russell Sanders: I'm working on two book projects. The first is a novel made up of linked stories, a return to fiction after more than fifteen years devoted exclusively to nonfiction. It's liberating for me to give my imagination free rein, and to take a respite from brooding on the world's ills. My characters brood, as well, of course, but their concerns are more personal to each of them, and generally less public and calamitous than the ones that keep me awake at night. I've just begun sending out stories; a few are forthcoming in *Kenyon Review*, *Michigan Quarterly Review*, and *Seattle Review*.

For the other book, I'm making notes and sketching exploratory essays about contemporary efforts to "design with nature"—in agriculture, architecture, manufacturing, ecological restoration, education, and other domains. Writing this book will require me to wrestle with the vexed question of what "nature" means. It will also require me to be less of a stay-at-home essayist and more of a traveling journalist than I have been in the past.

Whether through fiction or nonfiction, I'm seeking to understand our perplexing species more fully, and to honor this life, this planet, more deeply.

UnSprawl Case Study

Plum Creek
Kyle, Texas

by Peter French

When planning for the 2,200-acre Plum Creek community began in the mid-1990s, the New Urbanism movement was in its infancy and the suburban Austin town of Kyle, Texas, had fewer than 4,000 residents. The sleepy ranching town 17 miles south of Austin might have seemed like an unlikely place to develop the region's first traditional neighborhood development, but the combination of a visionary developer and planner coupled with a forward-thinking land-owner proved to be the right recipe for making the unlikely happen.

A roundabout and Austin vernacular architecture at Plum Creek.
Photo by Greg Hursley, courtesy TBG Partners.

Fifteen years later, Plum Creek is home to over 1,400 households, Kyle's population is fast approaching 30,000, and New Urbanism has made significant inroads establishing itself as a viable, desired, and valuable development model. The unlikely story of Plum Creek's past success coupled with the exciting future of a project with over 1,400 acres still to be developed should serve as an interesting example for both private and public interests hoping to promote smart growth and New Urbanism in their own

communities.

Developed by Benchmark Land Development, Inc., Plum Creek will ultimately include 8,700 residential units, several hundred acres of green space, over 600 acres of commercial, employment, and mixed-use property, a 70-acre town center, and a commuter rail station. Plum Creek has been designed in accordance with the principles of New Urbanism, including a mix of housing types, homes sited on a variety of lot sizes, garages accessed by rear alleys, and sidewalks and trails that emphasize pedestrian connectivity to open spaces, civic spaces, and neighborhood commercial districts.

Plum Creek site plan.
Graphic courtesy TBG Partners.

Project History

The property now being developed into Plum Creek was formerly known as the Mountain City Ranch. The ranch property was assembled by San Antonio's Richard Van Wyck Negley and his wife early in the 1900s and was used for grazing goats and cattle, cotton production, and recreation. Negley's wife, Laura Burleson Negley, was the great grand daughter of General Edward Burleson, the second vice president of the Republic of Texas, and the man who helped found the cities of Austin and San Marcos. He also introduced the bill in 1848 to establish Hays County, in which Kyle is located. General Burleson's son Edward Jr. was married to Emma Kyle, daughter of Fergus Kyle, the man who had founded the small central Texas town in 1880.

The heritage of the family in Hays County and central Texas is matched by the progressive role they have played in making it a better place for generations past, present, and future. The family's

continued involvement in the development of the region's first New Urban community is a fitting evolution of that legacy. In 2006, the Hays Consolidated Independent School District dedicated the Laura Burleson Negley elementary, school which is located on a ten-acre site donated to the district in the heart of Plum Creek's first phase. The yet undeveloped ranch property is held in trust by family members until it can be incorporated into future phases of development.

The willingness of the landowner to hold the balance of the property during the development life cycle helped make Plum Creek's New Urbanism plan possible. Benchmark Land Development was able to buy land in 200-acre increments as opposed to buying 2,200 acres in total in 1997. The financial structure enabled the family to hire a developer willing to work with their property on a long-term development timeline. At the time the partnership was being made there were no other New Urban developments in the region to reference for sales velocity or market share. The market was untested, and Kyle had almost nothing to offer in terms of retail, service, and employment infrastructure. Despite this, the development team believed that by creating a great place so close to Austin, they would be able to make something extraordinary happen.

New urbanism provided the framework for the community design, and making the project affordable remained a driving force for the team. By developing in Kyle, the project would have a price advantage over Austin, and the goal of creating a place for a variety of people where home prices started in the $100,000s instead of the $400,000s remained primary throughout the planning and development process.

Sidewalks, planting strips, and street trees are part of Plum Creek's focus on pedestrians.
Photo by Greg Hursley, courtesy TBG Partners.

As is often the case for New Urbanism and smart growth communities, the desired lot sizes, street widths, mix of uses, and numerous other aspects proposed by the developer were not allowed under the City of Kyle's existing residential subdivision code. Benchmark spent 18 months negotiating a detailed planned unit development (PUD) agreement with the city.

The scale of the project was as daunting to city leaders as the nuts and bolts of the proposed ordinances. Issues of particular concern were lot sizes, street widths, and zoning uses. The planning and development team spent considerable time working to educate city leaders about the benefits of walkable, mixed-use communities, the safety benefits of narrow streets and alleyways, the value of preserving open space and building tax base through density. Ironically, the town's historic downtown features many of the desired design elements outlawed by the existing subdivision and development ordinances.

Most garages are accessed off alleys at Plum Creek.
Photo by Greg Hursley, courtesy TBG Partners.

After months of protracted negotiations and in the interest of getting the project started, Benchmark agreed to several concessions, including increases in minimum lot and home size and street widths. For example, residential street widths of 26 feet were desired, but Benchmark agreed to 27 feet; collector streets of 36 feet instead of the desired 32; and boulevards of 40 feet (excluding median strips) instead of 36 feet. Private street widths and alley widths were also negotiated, along with parking ratios, density maximums for residential zoning categories, and height and use regulations for employment, light industrial, and commercial/mixed-use areas.

Over a decade into the development cycle, periodic ordinance changes are still being requested, some of which are approved by the city and several of which have been refused. Ultimately the Development Agreement with the city of Kyle, the two PUD ordinances, and the Partnership Agreement between the master developer and landowner were signed in 1997, and lot and home construction in the first phase began in 1999.

Throughout the period leading up to the start of construction, the planning and development team visited new traditional neighborhood developments around the country and conducted numerous focus group sessions with realtors, prospective home buyers, and area home builders to find out if a New Urban development would be accepted by the local market. There was clear focus group data that an alternative to conventional suburban development and cookie-cutter builder housing was strongly desired. Despite this, a year-long search failed to secure homebuilders for the project.

Benchmark, however, was ready to begin residential development in Plum Creek. In conjunction with land planning partner Bosse Compton (now TBG Partners), Benchmark created a detailed pattern book that detailed lot widths, setbacks, street designs, block dimensions, landscaping, and home design standards for the first phases of development. Armed with the pattern book and bolstered by the focus group data, Benchmark ultimately decided to create its own homebuilding company, license house plans from Looney Ricks Kiss, and to build the first blocks of homes.

New Urbanism at Plum Creek

Plum Creek employs a wide range of New Urbanist principles in its design:

- Sidewalks and trails provide pedestrian connections within the community, including pedestrian underpasses for the two major arterial roadways that bisect the community.
- A majority of the community features rear alley-accessed garages, creating pedestrian-friendly streetscapes.

- Narrow streets and other traffic calming measures are used to slow traffic and improve the pedestrian environment. Additionally, over 5,000 trees have been planted to provide shade for sidewalks, streets, and homes, reducing urban heat-island effect. These street trees also create a physical barrier between pedestrians and cars.
- Homes are designed to evoke the appearance of traditional homes found in central Austin, and feature usable front porches, picket fencing, and individual mailboxes.
- A commitment to life-cycle housing necessitates a variety of home styles, prices, and types to serve homebuyers of different incomes and family types.
- Hiking and biking trails are designed to encourage residents to exercise while providing transportation options.
- A commitment to usable open space means every home is within walking distance of parks of various sizes and intended uses. A 30-acre lake serves as the green heart of the first phase. Pocket parks, regional parks, greens, and alley-parks dot the neighborhood.
- A community center offers free event and meeting space for residents.
- A mix of uses is integrated into the community to complement the residential development—today these include a daycare, an elementary school, a performing arts center, service retail (coffee shop, gym, music and dance schools, salon, retail), and a small healthcare center that includes clinics, a lab, and a physical therapy center, all within walking distance of the homes.

As the development has progressed Benchmark has endeavored to mix additional New Urbanism design elements into each future section. The model home section includes a variety of lot sizes, housing types, pedestrian easements, open spaces, and a mixed-use component.

Strong architecture helps the single-family homes at Plum Creek hold the corner and provide an attractive and functional streetscape.
Photo by Greg Hursley, courtesy TBG Partners.

One benefit to developing a large-scale community is the ability to tour prospects through the existing neighborhoods. The mature trees and landscaping found in the first sections provides a sense of what blocks will look like in the not-too-distant future. People often remark how poorly most conventional developments age, and how charming Plum Creek's early sections look today.

Homes at Plum Creek

The first homes at Plum Creek were attractive, unique, and affordable—sales velocity quickly surpassed expectations. This was particularly remarkable considering the lack of services available nearby and the somewhat complicated directions prospects followed to find the community. People were drawn to the distinct aspects of the home and community design, and the promise of future

phases. With the quick success of Plum Creek Homes, several other homebuilders soon joined the ranks. By the end of 2001, five homebuilders were selling a diverse mix of housing types, sizes, and prices ranging from attached townhomes starting the mid-$90,000s to 3,500-square-foot custom homes facing a new public golf course priced at almost $300,000.

With parks, schools, and retail within walking distance, Plum Creek offers a true alternative to car-based subdivisions.
Photo by Greg Hursley, courtesy TBG Partners.

To maintain an engaging street scene, Benchmark approves each home elevation offered in Plum Creek and signs off, on a house-by-house basis, on each color scheme, elevation, and location within the block. To ensure variety, two homes of the same elevation or of similar colors cannot be located on adjacent or contiguous lots. Most early sections of the development contained a single home builder and lots of similar widths (lot widths ranged from 27.5 feet wide by 110 feet deep to 80 feet wide by 150 deep—lots averaged 45 feet wide by 120 feet deep). Early in the development process some lots were built with alley-loaded garages and some were built with detached garages on the back of lots accessed by driveways coming from the street. Ultimately the market acceptance and preference for alley-loaded product prompted the limited future use of front-loaded homes and lot design.

The initial success of the community was remarkable. In 2002, Plum Creek was the second-best selling community in the five-county Austin metro area, selling almost 300 new homes. Over the following years builder turnover has reduced the number and variety of plans offered, which has in turn reduced the number of new homes sold per year. In the last twelve months a new slate of builders and plans has been introduced to bring Plum Creek back to its ranking as a top-selling community.

As the community has matured, the number of resales per year has steadily increased. Despite the downturn in new home sales nationwide during 2007 and 2008, the resale market in Plum Creek has continued to gain strength. While less than three percent of total housing supply in Plum Creek is for sale at any given time, the number of days on-market has decreased while the price per square foot has increased.

The ability of Plum Creek residents to move up and down within the neighborhood depending on their needs has demonstrated the importance of providing life-cycle housing. By the end of 2008, over 1,400 of the 2,000 planned dwellings in Phase I were occupied. Presently there are three builders (Bowen Family Homes, Meritage Homes, and KB Homes) offering 26 distinct home plans. Prices range from $145,000 for a 1,326-square-foot home to above $300,000 for a 3,400-square-foot home. The three builders staff four model homes in a new phase of the development that

exemplifies the best design features of the community.

An Active Community

A strong homeowners association with a full time on-site manager helps regulate and monitor deed restrictions and community activities. An active and engaged group of volunteers promotes community life through a weekly e-newsletter, a monthly newsletter, and dozens of social activities, clubs, and events. A long-time Plum Creek resident also occupies a paid part-time position as the neighborhood's community life director. The social infrastructure in Plum Creek is extensive and has created a tremendously loyal network of neighbors. The sense of community in Plum Creek is also reinforced by the developer's decision to name streets after local people of interest. Maintaining a connection to area history seemed appropriate considering the significant role played by the landowners in settling the region.

Existing groves of oaks were preserved wherever possible and now serve as shady, popular parks.
Photo by Greg Hursley, courtesy TBG Partners.

A 2,700-square-foot community center overlooks the lake and features a large common room and kitchen that can be reserved and used by residents.

Landscaping, Parks and Open Space, and Environmental Features

The power of landscaping to influence placemaking has become increasingly apparent as the development team evaluates the early stages of development. Prior to the start of the project, the team created a landscape design template and plant list that utilized native and drought-tolerant plants. The guidelines prohibited the use of St. Augustine as a turf grass for lawns as it uses more water than Bermuda, Buffalo, or Zoisa. A list of appropriate street trees and yard trees, bushes, and shrubs is periodically updated by the development team and now by a volunteer landscape committee managed by the residents and the HOA.

The design of each section incorporates existing topography, trees, and views where applicable. As the property had been used for grazing and cotton production, few existing trees were on the site, and the team has made a special effort to retain them. In 2003, the developer spent over $70,000 relocating five mature oak trees within the development, for example.

A variety of parks and open spaces were designed throughout the neighborhoods. In the center of Phase I, a 30-acre lake is surrounded by an additional thirty acres of open space, with a trail system connecting the open space with the neighborhoods. Other open spaces include two large community parks and several smaller open spaces, including parks located along alleys in the middle of blocks. The larger community parks were each designed into existing groves of trees and include swimming pools, playscapes, picnic and barbque areas, and other programmed amenities.

The alleyway pocket parks are particularly well-used and are often left full of neighbors' toys. An off-leash dog park is currently being planned by a resident committee, and groups of residents participate in the programming of most parks. Volunteer groups have begun planning and executing landscape and hardscape projects in under-programmed open areas. Most residences are located within two blocks of some sort of open space.

In addition to the use of native landscaping materials and the extensive planting of shade trees, several environmental features are incorporated at Plum Creek that either conserve resources or improve residents' quality of life. Pervious concrete which absorbs rainwater and reduces runoff has been utilized in one of the parks, in pedestrian easements, and in portions of the hike and bike trail network. It is hoped that the city will allow the use of pervious concrete for all sidewalks in future phases. Each street has a planting strip or tree lawn on both sides between the front yard and back of curb. Street trees are planted every forty feet to shade the street and sidewalks.

The developer donated over 200 acres to a third-party golf course developer to utilize the flood zone surrounding the 30-acre lake. The public Plum Creek golf course utilizes reclaimed water provided by the city, as well.

Street Design

Plum Creek's design incorporates several traffic-calming devices. Medians, roundabouts, neck-downs, narrower rights-of-way, on-street parking, and large street trees help encourage slower vehicular traffic through the community. An interconnected street grid and collector streets that feature roundabouts help discourage cut-through traffic. Benchmark has also participated in the planning and financing of two major arterial roadways that bisect the project, and funded a center turn lane to a state road bordering the development.

Streets are narrow to meet the New Urban goals of pedestrian-orientation, reduced traffic speed, and multimodal use.
Photo by Greg Hursley, courtesy TBG Partners.

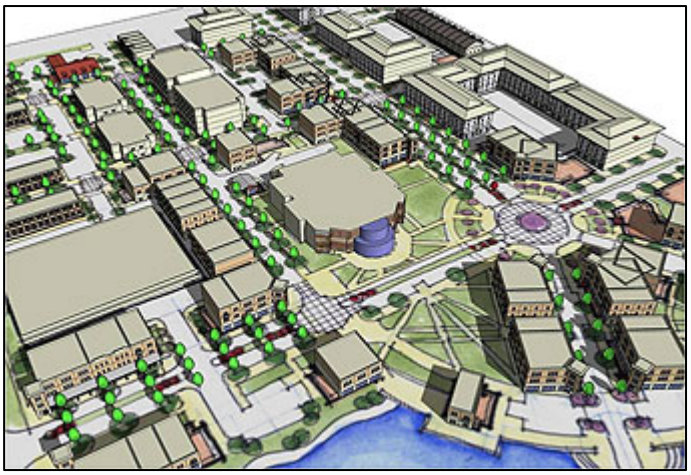
Through the development of two new major intersections—FM 1626 and the expansion of Kohler's Crossing—new access points have

been created and several hundred acres of commercial property have been activated. Both roadways provide direct access to IH-35, the main north-south highway and most direct route to Austin and San Antonio. The FM 1626 project also included Hays County's first grade-separated rail crossing over the Union Pacific railroad. Benchmark made significant financial and property contributions to the public-private partnerships that made these roadways possible ($3 million dollars and over 20 acres of right-of-way). To maintain pedestrian connectivity, Benchmark additionally designed and funded pedestrian underpasses beneath both FM 1626 and Kohler's Crossing.

Mixed-Use and Commercial Development

Benchmark believes that the mixed-use attributes of Plum Creek's plan make the project more financially viable, attractive to suburban homebuyers, and sustainable in the long run. Though commercial development interest has been slowly building over the past decade, it appears that Plum Creek has reached the tipping point. Over two dozen businesses already call Plum Creek home and many more are now actively looking at buying or leasing space in the project. The completion of FM 1626 and explosive regional population growth have made the intersection of FM 1626 and I-35 a major employment area. A 110- bed hospital and over two-million square feet of retail development are now under development less than a mile from Plum Creek's primary entrance.

In 2008, Benchmark engaged the commercial brokerage firm of Oxford Commercial to help sell the project's commercial property. The Oxford team also represents the commercial property in Austin's well-known New Urban redevelopment, Mueller. Finding planning, marketing, engineering, and brokerage partners who understand the intricacies of New Urbanism is critical.



Rendering of the new Uptown District, Plum Creek's town center, currently under construction.
Graphic courtesy TBG Partners.

Plum Creek's first phase includes a small commercial center called Plum Creek Square. It is home to the Lucky Cup coffee shop, Curves Gym, an insurance agent, salon, dance and music school, a clothing retailer, the HOA's management office, and a small mixed-practice healthcare center. It is a unique attribute that many residents can walk to their healthcare provider's office. Plum Creek Square's 3,000-square-foot buildings were designed around a stand of large, mature oak trees and an existing Sears and Roebuck kit house that had been home to the ranch's foreman.

Also in the center of the first phase is the 16,000-square-foot Rocking Horse Academy childcare facility, which sits adjacent to the Laura Burleson Negley Elementary School. Children are able to walk to both, and before- and after-school care is provided by the Rockinghorse Academy.

Additionally, the Fellowship of Plum Creek church holds two services each Sunday in the Rockinghorse Academy.

A second village center is planned for the intersection of Kohler's Crossing and FM 2770, adjacent to the new model homes. Planned uses include offices and retail space, the Fellowship of Plum Creek church, and the locally-owned Harrell Funeral Home. Several smaller commercial lots remain scattered throughout the first phase, including a large area of mixed-use property fronting FM 1626 between Kohler's Crossing and the Union Pacific railroad overpass.

Community events for residents of all ages are a common occurence at Plum Creek.
Photo courtesy Benchmark Land Development.

In 2008, Plum Creek broke ground on the first commercial component of its town center. In 2003, a ten-acre parcel was donated to the Hays Consolidated School District for a thousand-seat performing arts center. This facility is intended to serve as the civic anchor for the town center. Now dubbed the Uptown District, Plum Creek's town center will see its first commercial occupant, an Austin Regional Clinic and 15,000 square feet of for-lease retail space, open in the spring of 2009. Future blocks will include mixed-use multifamily development, restaurants, retail and office uses, the central administration offices of the local school district, a new City of Kyle library, and urban civic space in the form of plazas and an amphitheatre. A lake that provides aesthetic appeal as well as regional water retention occupies the hard corner of FM 1626 and Kohler's Crossing—reinforcing Benchmark's long-standing commitment of making open space a core component of the development.

In 2007, the city and Plum Creek teamed up to bring the value-added manufacturer RSI to Plum Creek. RSI brought seventy high-paying jobs from Austin, lured to Kyle through an aggressive economic development platform promoted by the city. Kyle bought the property from Plum Creek and effectively gave it to RSI. A 2007 Economic Development Strategic Plan commissioned by the City of Kyle calls for the creation of a significant regional employment center, and Plum Creek is positioned to become just that. Benchmark continues to work with Kyle to bring employers and higher education providers to the community.

Future Development

A 100-acre employment campus site has been designated within the project. A future commuter rail station has also been identified. It will connect Plum Creek to Austin and San Antonio.

Future phases of development will likely include a wider mix of housing types. Though most of Plum Creek's residents work in Austin, many have started home-based businesses, or telecommute

at least one day per week. Residents have already articulated the value of shaving car trips from their daily routine and realize that living in a mixed-use community provides value.

With over a thousand acres left to develop, Benchmark believes the future is brighter than ever for Plum Creek. Over a million new residents are expected to move to central Texas in the coming decades, and Plum Creek is actively making a place for them to live, work, shop, and play.

Just the Facts

Plum Creek : Kyle, Texas

- 2,200-acre project with 822 acres of residential, 442 acres of mixed-use, 238 acres of commercial, and 130 acres of light industrial zoning
- Located 17 miles south of Austin off Interstate 35
- 8,700 residential units at buildout — 1,500 developed so far
- More than 350 acres of open space, including parks, greenbelts, trails, a 30-acre lake, and 27 holes of public golf on 200+ acres
- 865 acres of commercial and light industrial in two village centers and a town center
- Educational and arts facilities include Negley Elementary School, Rocking Horse Academy, and the 1,000-seat HCISD Performing Arts Center
- Developed by Benchmark Land Development
- Planning and landscape architecture by TBG Partners
- Vision and strategy by Momark Development

For more information, visit the Plum Creek website at www.PlumCreekTX.com.

Peter French has served as the director of operations for Plum Creek since 2001. He has participated in all aspects of the development and is primarily responsible for strategy and marketing. Peter has been a strong community advocate, serving as president of a local chamber of commerce, on the city's economic development committee, and as a board member for the local hospital's private fundraising foundation. He presently serves on the board of Envision Central Texas as the community design committee co-chair, and is a member of the Urban Land Institute and the Congress for the New Urbanism. Peter, his wife Carolyn, and their two daughters live in San Antonio. Carolyn's great grand mother is Laura Burleson Negley.

ARTerrain Gallery

Ten Photographs by Ben Krall

Ben Krall travels throughout the United States and the world to capture unique images of both city and wilderness. Based in New York City, he is most reliably spotted on his way out of town. Recent trips have taken him as far as Athens, Greece and Santiago, Chile.

In the United States, Ben is a frequent, if obsessive, visitor to national parks and wilderness areas to capture the most remote parts of his country's "back yard."

He hopes to contribute to a continued dialog of conservation, culture, and advocacy by photographing the world's remote backcountry areas and lively cities.

Ben is drawn to bold images that seem outwardly simple and formal. In addition to being a photographer, he is a professional lighting designer, and has worked on a wide range of projects, including Broadway shows, feature films, architectural lighting for new skyscrapers, and fine art installations. Ben holds a Bachelor of Fine Arts from Carnegie Mellon University.

For more information on the artist, visit www.BKrall.com.

View full ARTerrain Gallery online at www.terrain.org/arterrain/23.

Poetry by Aleria Jensen

Threshold

Decades of this place piled in me and yet
never the bodies of salmon in blackness.
Through the spread of hemlock,
under damp hearts of alder leaves,
I hear the slices and surges of effort,
heavy with purpose, pulling the sea in behind.
The thrash of fins draws me down into mud.

All of me wants to fall to my stomach,
slither through twisted roots of spruce,
enter the swollen flow,
glide into that place of muscled salmon path.

I want to divide currents head-on,
split water by tail,
find the birth-curve of gravel.
I want to feel it all—
the jaw ache of melted mountain oxygen
against the memory of salt water,
the tenacity of cells unfed,
the inextinguishable need,
consuming more than my ragged body,
to spill open and deposit.

And now the question—
would I know I was dying?
Would it flutter under the scales and over the gills, the knowing?
Would it come to the embryo or later in the tides,
would it gather at the mouth of the creek,
whisper in the swirl of eddies,
urge passage in the threads between boulders
until the body twists, and finally the soft stream of eggs,
the clouds of milt, finally, maybe, the knowing.

Perhaps peace is this: the body hanging in tatters
after dancing in water, dedicated to an end,
having carried a life to sea and back.

Or this: the shiver of cells
anticipating forest, bear, huckleberry,
belonging again
to a creek where the stones call
lay down, lay down in the silt,
in the unceasing current.

Aleria Jensen lives and writes from the shores of Auke Bay in Juneau, Alaska, where she works as a federal biologist coordinating marine mammal conservation and management programs. Her poems and essays have appeared in a variety of publications, including *Orion, Alaska Quarterly Review*, *Potomac Review*, *Tidal Echoes*, and *Camas: The Nature of the West.* Recent work is also forthcoming in the online journal *Sea Stories,* a publication of the Blue Ocean Institute.

Poetry by Janet Smith

I Could Say It

Because of the juniper, its twisted
body, the purpling of berries
on branches, the warmed bark, like the fur
of a bear asleep in the sun,
the birdhouse on its great limb,
I bought the cabin.

I didn't know who I was.
I stayed inside the painted walls,
waiting for a signal to go outside. Light
swung through the juniper; a pair
of chickadees left the birdhouse's
small black mouth.

The chickadees called
in their same three notes. I understood
how I could say a prayer. I could say it
to anything: a star singled out,
the air filling with snow,
a cloud shaped like a question mark.

One prayer, over and over,
a charm against staying under a roof,
against five rooms of furniture,
the changeless noon of lamps.
I knew I had to buy back my body.
There are no signals, only hours.

Janet Smith is on faculty in the English department at Lake Tahoe Community College. Her first book of poetry, *All of a Sudden*, is forthcoming from Cherry Grove.

Poetry by Lauren Eggert-Crowe

Between the Oaks and the Grass

You will scoop dead butterflies into your pockets.
Pierce their center with pins.

You will spread their violets and clovers on the kitchen table.
Teach your children what the army protects.

Five hundred butterflies will hush this field with their applause

for the percussion of rifle-fire.

You will instruct the soldiers to check the glass,
inspect each bolt and tire tread for powdered wings.

You will find out later that to pick the flowers is to transgress the rules.
And you should have left the fallen behind.

You will live for six months in a war zone.
You say this with tenderness.

There are petals all around us.
The butterflies flap the tiny colors of their country.
We are needled through the heart.

Symmetry

Wings make an orange hinge: speck for speck,
all eyes and teeth,

a tube body: An origami line for red paper hearts
valentines delivered to the dogbanes and crown vetch

that surround the field full of guns:
Has your eye ever met barrel?

The aching gaze crowning a black o.
A nexus. A genesis. A birth canal.

You see spirals.

The way a bomb pirouettes on its radius,
the way it blooms.

Lauren Eggert-Crowe received her MFA in poetry from the University of Arizona and has been published in *You are Here: The Journal of Creative Geography, Water-Stone Review, Alligator Juniper*, and *Puerto Del Sol*. She is most drawn to the landscape of the Sonoran Desert, but also hopes to hike the Appalachian Trail in the near future.

Poetry by Greg McBride

The Doe

I am reading Roth on our wrought iron bench,
his Everyman remorseful in my hand.

Regret with every breath these days—neighbors
unmet, the divorce, talents left fallow.

In later years can anyone look back
upon a slate so clean he still stands straight?

The Beltway roar subsides to hum. Above,
there's cricket-squall and clacking jointed rail.

A doe appears and picks her way along
that fancied line dividing mine from what's

my neighbor's. She worries mulberry buds,
wanders unhurried, lips brushing the lawn,

lingers at the spoor of fox and possum,
raccoon, cast in furtive morning dashings.

She glances, seems to consider this weed-
whacked yard, seems to warn that I'm at the edge.

In her company, I foresee the day
when I will reach out for what light remains,

what air, close to this earth in which I root,
a blade she nuzzles, takes as hers, carries away.

The Buffalo

"Snow Paralyzes Buffalo As Winter Arrives Late"
— *The Washington Post*, December 28, 2001

How could he miss the threat in the closing
low gray sky? Had he run out of steps?
Perhaps his blunt, directed mind recalled
some warmth, some joy in the gallop of the herd,
that great black carpet undulating plains.

He must have known years of snow,
flakes slanting as if thrown like stones
into his ageless eyes, onto his brow,
his matted beard. This time, perhaps
he'd got his hopes up, perhaps he'd been misled,
the way the crocus and the daffodil
miscalculate an early spring.

The wind-blown snow picks up, his hooves dig in,
and the cold's a creeping vise upon his bones.
He hunches on a rise to watch the vast
and quiet grassland and knows he's ranged
too far from granite clefts or Dakota
cottonwoods. He's patient as his nickeled
image lying worn on a long loblolly bar.

Sixty million gone: their tongues to the hungry
and unspeakable; their scrotums laced
as pouches holding dice carved from their bones;
hides for saddles, stirrups, lariats;
beards for mittens. Blood for paint.

— Originally appeared in *Legal Studies Forum*.

Greg McBride won the 2008 *Boulevard* Emerging Poet Prize. His chapbook manuscript, *Back of the Envelope* will be out from Copperdome Press in spring 2009. His work appears in *Bellevue, Gettysburg Review, Hollins Critic, Salmagundi, Southern Poetry Review*, and elsewhere. He edits *The Innisfree Poetry Journal*.

Poetry by Dorine Jennette

Epithalamium

— *for Teggin and Robert Summers*

Swallows gather at the lakemouth's fog:

    nearly the hour of speech.

Under the shoreline gazebo's beams,

fan blades tick the light chain, keeping time

    until the bridesmaids' heels

commence their clicking to a string quartet.

Dearly beloved, we are gathered

    by the creak of folding chairs, green voices

from the shadows on the lawn.

How will she arrive, the bride, her long, long train?

    Aboard a craft of wooden wheels,

into the flower girl's beckoning blooms;

stems crushed in the carriage spokes

    release their scents to the groom.

Love, hold, honor, cherish, until: I will—

from *willan*: *I apply my will* and *I wish, desire—*

spilled on the tongue of the lake,

tasted in that slower world.

Dorine Jennette (formerly Dorine Preston) has published poems, essays, and reviews in journals such as *The Journal*, *Ninth Letter*, *Memorious*, *Coconut*, *Court Green*, and the *Georgia Review*. She earned her Ph.D. in English at the University of Georgia, and now earns her keep as a copyeditor for university presses. She lives in Davis, California.

Poetry by Wally Smith

After the Sipsey Fire

There's an irrevocable hush, now,
some forced solitude.
Too much ash-drift flushed
into bitter piles, silence
except for the crow-cackle,
far too symbolic.
Where is the carnage now?
The metaphor?
Wherever the smoke goes.
Where it rose, and settled thick
into bottoms where only tupelo
gum and cypress could take a hit,
mingled with rain-weary mist,
oil in water across the shallows.
Maybe in the quiet this world
seems clearer, not renewed,
where atonement comes not by fire
but through what is missed:
the easy curve of bracken fern,
their fingers quivering, leprous.

Morning at Tiller's Beach

When wind meets sandstone
it bruises, fractures, splinters
into rain-streaked crevices,
ricochets off scree,
and settles in trout pools
still rent with speckle.
The herons know this.
We watch them with baited breath:
stiltlegged, downruffled,
mute.

Waking under hemlocks

Sunday mornings
brought bough-swing—rain's
weighty rhythm—salvation wrapped
in ironies: hard-fought as gneiss,
slippery as moss-sheathed heartwood,
so slick only the truly penitent
shall pass. And looking skyward
we felt the familiar *swoosh*
of xylem on tent-roof nylon
and wondered—how many mornings
had these trees simply been trees?
How many Sundays in the woods
does it take to turn one a heathen,
made of more stone and damp earth
than purest blood, the sum of all things
but of nothing, wholly?
Listen. There is grace, there
in the emerald needles swinging, calling
come home, sinner, come home.

Wally Smith is a biologist and poet (not necessarily in that order) living in Tuscaloosa, Alabama. His poetry and essays have recently appeared in *Appalachian Heritage, Forest Magazine*, and others.

Poetry by Lori Anderson Moseman

Carrying a Canoe to Mt. Koya

It is a two-legged task
even if I only imagine
such a journey. Paddles tucked
overhead in the upturned
hull—folded wings.
Egrets part snow
in ways we never see.

Next foot | next foot.
Each foot kept in line
by the train's rails.
We bring too much.
Still, the temple
hostel monks serve
tofu, radish, tea.

the new year seven days old

Workmen chip ice.
It is a three-legged task:
blunt blade on a pole
drumming a dry path
under ancient cedars.
Paper prayer wedged
in bark. Jizo in trunk's

Next stone | next stone.
It is the year of the dog:
ours bit off the head
of a Kannon we keep
in a open burl—scar
in an ancient cherry
on the riverbank back home.

most pilgrims return to work

hollow. Not yet canoe.
What I did carry is a camera.
What it carries I am not
sure. Prayer? A space
to revisit. Jizos all ice.
One-handed task: ladle splash.
Wash mouth. Launch boat.

Pause. Next. Pause. Next.
Shutter. Utter. What I offered
then, I do not know.
Now, I offer these suicides:
A's brother, B's brother,
J's mother, E's daughter,
J's uncle, my great aunt

great uncle great grandfather

We enter the graveyard
carrying our own ancients
collecting images to will
transport for the living
at risk. Who will wander
our way in need of maroon?
Incense. Ink. Paper.

Is image the path?
Synapse. Snap of a branch.
I will come again. Again.
Snowmelt sliding off a roof.
To enter orange. A temple
vibrating. Bronze gesture.
Safety for survivors. For S.

Lori Anderson Moseman curates the High Watermark Salo[o]n, a chapbook series she created after Federal Disaster #1649, a Delaware River flood. She also founded Stockport Flats, a press. Her poetry collections are *Walking the Dead* (Heaven Bone), *Cultivating Excess* (The Eighth Mountain Press), and *Persona* (Swank Books).

Poetry by John Hildebidle

Sciuridae

Both science and art have the habit of waking us
up, turning on the lights, grabbing us by the
collar and saying "Would you please pay attention?"
— Diane Ackerman

Geometry

The absolute horizontal of leaps
from one tree to the next, or of scampers
along power lines; playing against
the true perpendicular of light-pole climbing.

Stillness

When occasion warrants, like shadows,
only tails twitch, slightly, and eyes.

Litigiousness

Given such small size, in the vicinity
of red tail hawks and innumerable
feral cats, you'd imagine they'd keep their peace.
But no—any smallest berry demands orations.

Color

The grey that gives them their name,
but a black family has grown year by year,
and on one occasion, a true white
walks a fence, Wallenda-like.

Gait

Not running, not trotting—
a scheme of tiny leaps.

Intrepidity

No asphalt, not even four lanes worth,
inhibits their progress. Hearing or spying
a bus bearing down, they freeze
so it can pass safely above them.

Adjustability

Head first, head last, no matter
the angle or altitude, always alert,
their tiny eyes seemingly full of curiosity.
Sometimes robust, sometimes small as bat or vole,
they do what is needed to suit available holes.

John Hildebidle has recovered from a Ph.D. in English from Harvard by teaching in a public junior high school, Harvard, and now MIT, where he infects proto-terchnologists with a love for literature, especially poetry. He has two grown children, two cats, a mortgage—all the earmarks of a bourgeois life. He has published one collection of stories and four gatherings of verse, the newest (Signs, Translations) available online at salmonpoetry.com. He lives and writes in Cambridge, Massachusetts.

Poetry by Beth Paulson

Red Fox

A blaze of gold
more than red
in early evening light,
you strode slow through snow-
dusted new grass skirting
a low hill behind the house.
Then black ears pointed up, you sensed
my presence on the porch
and turned your sleek head, sharp nose,
toward me quick-
flashing black bead eyes.

How you lit up
the dull afternoon
with your confidence
and bravado

and in that moment gave me
a grim hint of your intent
before you trod soundless
to the forest edge
where the lesser creatures live.

Bright hunter—
what more do I have
to fear or desire?

Primroses

At day's end along the dusty path
I saw them, pale-pink votives glowing
in the gravelly stone
on the brown bank
up from the clamoring river.

They were evening primroses
sprung from gray-green, leathery leaves
unfolding their silken petals, opening up
to bright stamen centers.
They were the only blooming in that dark place.

I believe there are people like that, too,
who cling to what's in this world
such as the poor person who offers
the stranger bread or a song.

Beth Paulson's poems have appeared widely in small magazines, and her work was nominated for 2007 and 2009 Pushcart Prizes. A new book, *Wild Raspberries*, is forthcoming from Plain View Press in Spring 2009. Beth lives on Colorado's Western Slope, where she teaches writing workshops and climbs mountains.

Poetry by Andrew C. Gottlieb

Evolution

Above this bed, through the open window
I can hear and see it all.

A leaguer of bees throng the thick shrubs,
bubbling at the shy white flowers,
their flight a drone of early light.

California morning is white clouds,
cool air, bird chirp, stillness among the oaks,
wings waking in the eucalyptus.

Somewhere near everywhere the grey sea
is babbling its love to the beach like a teen:
foam, a mustache of bubbles, wet rock,
a collision of difference.

I beg you not to pull me to the world,

its valuations beyond light and song,
losses far past the recession of night,
the rise of morning, feathered machinations.

We'll all lose it all in eventual erosion.
Until: there's no more or less beyond
this eucalyptus stretch, the slim brown limbs
of these trees: the women of the coast.

Don't ask me to battle a man in his car,
an email, language jailed in faraway fear.
There's your therapist. You could spend
your life trying to mine the ore of okay.

Say to one another: I like your hair,
your try, the skin you're sharing. Meaning:
keep surviving.

I'm no fool to find truth in quiet light,
the strive of surreptitious birding.

The electricity of the day: hummingbirds
surge from bloom to perch
quicker than blink, the click of their call
stitching night to the day with a soft repair.

Even the crows know their rough plead
is enough.

You know this light, this bird, this tree
is what you would do and be

all day if you could, if desire was magic,
if fingers were wings, and if you were braver
than you ever will be.

Still Life with Cormorant

Black slash of bird, you slip the rippled surface
like a slick. The lake: your playpen.
Lifting or landing, you fold and fan
as if your flesh was engineered
with the care of rules and squares.
Your feathers shine; your skin stays dry.
I aim the binoculars bill-high.
Mornings, I've seen you throng docks.
Wings spread, you lift light bones
and wet wishes to the sun, waiting for warmth
as if after you dry you might not disappear
to another fish-plunge,
tunneling far from our land-locked spot.
We watch your exit and wait.
Always a question.
You flirt with the surface but linger
at the depths. We see you then, briefly,
dark curl of muscle and thrust,
and just as you come into focus: rings widen.
We're left guessing.
Where next? The hidden swim alone.
Another measured breath.

Daybreak

Early as shapes emerge gray after black.
The lake is flat as a floor, and your paddle
butters water as you push your canoe
from a muddy shore with your pack, your boots,
and your hope for a loon or a moose.
The bow turns clear glass smeary. The try
in your bicep is an ache that makes you grateful,
and you glance back for what you know is coming,
the first orange smolder of day, a promise
that's still surprise. On Tobin Harbor's north
shore, far in the fence of pine mining the ridge
root-deep and thick, a quick wolf-cry.
You pause the wood blade high. An echo
and an answer, and you picture the paws
prowling pack-wise, a pant of animal, fur-white
and tired. You glide in a listen. Silence
again. Back in your cabin, on a rock at the desk,
a cling of float copper sheathed in greens
and blacks but gleaming in the shiny wrinkle
where the plier's eye crimped through corrosion.
Greenstones in a pile. All best things are accidental
finds. Three spiders and their webs, insects
you think of as friends because they sit and wait
as you do over thin paper, pale and blank,
strung out in lines, dreaming food.
You will root all day for clumsy flies.
You push your blade against the lake and gaze
again to see the first light shy and bare.
Shapes define as shadows stretch and blacken.
Suddenly color runs from everything on shore.
The whole day is coming to you, fresh and lit:
greens, blues and reds as beautiful and wet
as meadows fat with bent goldenrod, clover,
and streams of seeded grass freckled and dewy
with white water dropped and heating like speckled
beads of yellow light waiting to burst and shine.

Andrew C. Gottlieb currently lives and writes in Irvine, California. His work has been published in many journals, including the *Briar Cliff Review, Ecotone, Flyway*, and *Provincetown Arts*, and he's recently been writer-in-residence at both the Montana Artists Refuge and Isle Royale National Park.

Poetry by Joy Ladin

In the Beginning

There was love. And out of love
Came graves and mountains,
Clefts in rocks, footsteps in gardens,
Warm-blooded creatures
Taking shape in darkness,
Peppermills and grocery lists,
Squirrels scrabbling on copper roofs,
The smalls of backs, the backs of necks,
Tea lights and tapers,
Badly sewn curtains,
Sobs in the night, policemen on lawns,
IVs and ambulances,
Skies full of stars
Waiting for eyes
To see them as constellations.

The World at Your Feet

What is man that you are mindful of him...
laying the world at his feet?
— Psalm 8

Eden eyes you from afar. Waterbirds
Flick their white-tipped wings

Shyly as they skim
The paradise ashiver

In the river's ripples: palm and eucalyptus,
Animals eager to receive their names,

Sheep and oxen, wild beasts, all the birds of heaven.
The Garden that's longed for you

From the instant longing split you
Colors like a jilted lover, flashing

The iridescent eyes of peacocks, brushing your brow
With willow fingertips,

While you, who long to lose yourself
In the world that longs to take you

Where God is imperative to blossom
And thirst for the knowledge of sorrow

Becomes the sorrow of the knowledge
There was no need to thirst,

Find yourself
With the world at your feet

Choosing again
To betray her.

Joy Ladin is David and Ruth Gottesman Professor of English at Stern College of Yeshiva University. Her poetry has been widely published in magazines and on the web, and her third collection, *Transmigration*, is coming out in 2009.

Poetry by Dan Stryk

When Spiders Come Inside

Strange how the rare moment of threat or ugliness in nature is inevitably man-induced, and then, by him, perceived...
— Thoreau's *Journals*

Such visionary dangling
from its strand of
pearl-bright filament

today in the sunlit
woods: a tiny cruciform
with glowing spots

along deep sable fur
forgiving all our
lives, like Eden's

proffered grace. The same
black savage fur that
scurried, humped

& stark (as I watched
helpless from the tub
today) over slick

tiles of our bathroom
floor,
and vanished
like an insult,

a Bosch demon, into damp
cracks, peeling darkly,
in our lower wall...

Image by Suzanne Stryk.

Dan Stryk's seven collections of poems and prose parables include *The Artist and the Crow* (Purdue UP) and *Solace of the Aging Mare* (The Mid-America Press). *Dimming Radiance* (Wind Publications), a fusion of Far Eastern and Western concepts and writing forms, was published in fall 2008. Recent work appears in *Poetry, Ploughshares, Antioch Review, Isotope,* and *Shenandoah*. He is also a recipient of an NEA Poetry Fellowship.

Poetry by Mary Cisper

The Generous Field

What if, when two chestnut horses come toward you galloping,
the sun is at the fit angle for rapture?
You might embrace, suddenly, after its long
approach, the year's arrival at umber,
as the field brims with tawny fadings, armatures,
the violet understory of beauty.
As you spill back into yourself,
the pasture will glow like amber,
the horses pressing body to body.
Although your joy will be quiet, it will be
intemperate, the silver wire of the fence
haloing the glinting text,
leaving you no choice in the matter
of loving both your visible
and your covert failures.

Daffodils, Blue Vase

In cool water, this resting. Our broken stems.

And why shouldn't they speak?
The bud taken, wrapped in cellophane
and tendered—the cut unacknowledged,
as is the hidden rhizome,
shadowed pockets of green moss,
the brief unbidden gestures.
How much unspoken although
naming's practiced: anther, sepal,
stigma. Leaf and stalk.

A time-lapse film of thistle blooming
reveals the quickened offering,
a galaxy is birthed. And this
still life, surpassing gold above the blue—
a wave frozen into syllable—the caught,
if not the strangled?

Mary Cisper lives in northern New Mexico below the Sangre de Cristo mountains. She worked mostly recently as a chemist but now focuses full-time on poetry and the visual arts. Her poems have recently appeared in *Natural Bridge*, *Borderlands*, and *Confrontation*.

Poetry by Suzanne Roberts

Incan Wall

Sacsayhuaman, Peru

Inside the belly of the cave,
a darkness more than metaphor
erases rock walls, ceiling,
ground, me. I find myself

alone in a literal darkness,
in the center of nothing,
realize this cold, dark womb
could be the only fear.

But I emerge, of course—
a light-flooded Andean backdrop,
the undulation of green flickering
before white-capped mountains.

My mother says when she dies,
it could be days before anyone
would find her. Such comfort
in being found still warm.

Shark Attack

Cape Canaveral National Seashore, Florida

The fisherman struggles, reels
the young hammerhead onto shore,
smashes her head as she thrashes
in the wet sand. Blood spills red
ribbons from the gills onto the white
underbelly. The fisherman poses
as his wife snaps the photo. He pulls
the line from the slack jaw, flings the body
by its tail back into the foamy sea.

Suzanne Roberts is the author of two poetry collections, *Shameless* and *Nothing to You*. Recently named "The Next Great Travel Writer" by Natiional Geographic's *Traveler,* Suzanne holds a Ph.D. in literature and the environment from the University of Nevada-Reno and teaches English at Lake Tahoe Community College. For more information, visit her website at www.suzanneroberts.org.

Poetry by Cynthia Belmont

Tick Season

April: the grass is green with need,
the forest shivers with beetles at dusk,
brown wings ticking in the old leaves
festooned with spiders whose eyes
will glow all over the yard at night
come summer. We've headed in

and lit our winter lamps. The lake breeze
is gentle as a white lie. Now the snow
is gone again, everything is easier
but the body, its crawling skin
that remembers this was once forest too,
where the house is, where the grass lives.

When the season digs in, it is a secret at first,
tight as an apple bud, brown as a seed
planted in the furrow behind my ear
where the earlobe meets the jaw hinge,
that soft mere suggestion of skin
a red stain on the lips of spring.

In Vivo

some animals are sleeping
in the white iced tree
like an x-ray of a breathing lung
secret roots splayed
packing thumbnail maps
of skeletons curled around
skulls tight as nutshells
whorled horns of plenty
animals locked
in the strongbox of waiting
the mice with their scrapbooks
and hand-stitched adages
the frogs with their hearts of palm

Cynthia Belmont is associate professor of English at Northland College, an environmental liberal arts college in northern Wisconsin. Her poems have appeared in a variety of journals, including *Poetry, The Cream City Review, Iris*, and *Eclipse*. She lives in Ashland, Wisconsin.

Poetry by Rachel Dacus

O Beautiful

The white-haired woman lowers binoculars
and points: *Eagle!*
We raise our glasses and scan
the Point Reyes hills to see a white-headed fledgling
standing on a ridge. His stretched wings
sieve the wind. The beaked head, a pharaoh's,
turns slowly. Through our trembling glasses, the Golden
Quarter comes alive—*O, beautiful for spacious!*

We descend to the estuary,
leaving behind his practice flights—a hoist
into the sky, free-fall and strike—his freedom
now law-forged. He's a leashed kite
tethered to this range where a few more eagles
nest each year, their circles
pruning a sky whose curve
can only be seen by satellite.

At the Lindsay Wildlife Hospital, a tethered eagle
hops atop his cage. His broken wing
created a captivity that extends his life
beyond that of cliff-roaming cousins.
He flaps in tight
circles, snapping dark flags.
We stand back,
doubting the chain while he puzzles us
with a hard black eye. A sign tells
his story. I cannot translate to him a place
where eagles and my species
now roam together
in practice flight. I cannot relate
to him our wild attempts to lift
and span a shrinking globe
with balanced rights—*O beautiful!*

I cannot say how like you we want to aerial,
white-headed in stretch and glide,
as when we struck down a Majesty
and first began to loft
on nothing but the right to flight.

Designer

— for David

I never like running out, the empty
pill and shampoo bottle, the last paper towel
a stunted iris unfurling on a brown spindle.
I don't like the half-sentence ramming
an idea, butting scant-eyed
until you, my architect, point out the latch
on the gate, slide it back
and let the poor thing run.

I like how you amass angles all day,
dentil work and eyebrow windows, pediments
and rusticated corbels. You sketch and sketch
until the flat field rises. You collage
towers from the what's-around, then discompile
my hair and launch into morning's red rant,
towel around your head. O pharaoh of forever,
my samurai of soffits, I like

holding the measuring tape's other end
while you fill in dimensions. Like how you relegate
to hack the movie architect's dreamscape.
How when I lack ribbon for a package
you divine a native curlicue in twine.
Your buildings aren't so much designed
as accrued, like stones water-stacked
on a river bank, true to a mysterious designer's
essential order—to casual, causal felicity.

Rachel Dacus has three poetry books: *Another Circle of Delight*, *Femme au chapeau*, and *Earth Lesson*. A resident of the San Francisco Bay Area, she serves as a contributing editor for *Umbrella* and blogs as *Rocket Kids*.

Poetry by Jared Pearce

In Love with a Gardener

She won't remove the cabbage bug,
But handles every fanning leaf,
Stretching down into the blossom's core
Where it sleeps, curled in glutenous dream.

I pick it out and offer it to the birds—
indelicate creatures roaming the greens,
the beaks stab and stab again, missing
often for that one direct hit through the heart.

Jared Pearce teaches literature and writing at William Penn University and has recently published poems in *Creosote*, *The Louisiana Review*, *Permafrost,* and *Dos Passos Review*.

Poetry by Pianta

Natural Law

in the world of natural law
the centrifuge leans and pulls
and Mercury unfailingly
orbits the sun every 88 days

rain falls
and the mouths of baby birds
open
to what they are fed

in a hollowed out life
I struggle with tidal breathing
and making my six liters of air
so I look toward gravity
and electromagnetic fields
for their unerring paths—
the steady needle in the compass
and the swath of the Aurora Borealis
to assure me of north

in these absolutes
hummingbirds are drawn to flowers that trumpet
to prevent the tangling of their wings

which gives me the courage to ask
in the world of tongue and groove
how do I fit here

Originally from Hawai'i, **Pianta** lives in San Diego but considers Hilo home. Her work has appeared in publications such as *Bamboo Ridge Press* and *Ekphrasis*.

Poetry by C.E. Chaffin

What Prevails

The ruby-throated hummingbird's not fooled
By deer netting; he pokes his long bill through
And arches wings backwards, by nature schooled
To sip his nectar from a new purview.
He wants his meal bad enough to change
Without complaint where barriers forbid.
He doesn't ask the world to rearrange
Arrangements of its formidable grid.
He perseveres to suck pineapple sage's
Tubular red flowers where they are;
Adapting as animals have for ages,
He risks a tangled wing to fill his jar.
What fools we are to say the system fails
When one bird's creativity prevails.

C.E. Chaffin, M.D., FAAFP, edited *The Melic Review* for eight years prior to its hiatus. Widely published, he has been the featured poet in over twenty magazines. His new volume, *Unexpected Light: Selected Poems and Love Poems 1998-2008* is due out in February 2009 from Diminuendo Press. Catch up with hime at www.cechaffin.com and www.cechaffin.blogspot.com.

Poetry by Michael J. Vaughn

Return to Sender I put
this stamp here, and pray that Aunt Mimi has no fit
when she finds it face-down in the birdbath, air bubbles rising,
drowned by some hell's angel of a postman. Aunt Mimi can't you see I
live all this way over here so I can launch twenty-pound sheets across the
American terra, conniving their force with the seat of my tongue, saliva inlays
on the back of the Oregon Trail. This is no small precipice; this is something grand,
this tender devilishment of things finding their way, sidesaddled with the roadhouse
scrawls of insane relations. You could want nothing more in life than to stand
before the dead letter office, black veil and armband, scooping up these bits of
holiness that have no place, no breath, no destiny. Like me, Aunt Mimi. If you
would rise from that grave just once, if you could gather a single dram of
gumption and send me a postcard: a shot of the high falls, weary speck
of a backpacker squatting at the crest, grinding the name of his
administrative assistant into the granite skin, then folding
up an airplane from his lunchbag, tossing it
into the water, watching it fly
all the way
to Reno.

Consolation

A truffle is a truffle because it looks like a
truffle; a trifle is a rifle gone south. The sky makes so
much sense. The hunter chases the girls; the big dog trails behind;
a bull stands at the gate. And the great bear, ready to dig his claws
into the burberry and spin you away like a retreating galaxy. Even
on Valentine's Day, the kid with the arrows should not wake the
slumbering Ursa. He is truth on four legs and not to be trifled with. The
prisoner queen sits crookedly on her throne and I am Cygnus, craning
my neck into the cosmic wind. Take away the belief and
astrology begets astronomy, dry telescoppery,
no longer engaged in the business of
seduction. Even the serious stars are not
much more than our best guesses.

Michael J. Vaughn's ninth novel, *Outro*, was just released this month. His poetry has appeared in *The Montserrat Review, Many Mountains Moving*, and *The Avatar Review*, among others. He has covered the performing arts in the San Francisco Bay area for 25 years. His venture into shape poems was inspired by an assignment from *Writer's Digest*, which included an interview with legendary shape poet John Hollander. See his blog at writerville.blogspot.com. See the full serial version of Michael's novel *Gabriella's Voice* at operaville.blogspot.com.

Essay

by Sharman Apt Russell

Dear Dad,

I am never sure what to call you. You died over fifty years ago, when I was two years old. I imagine I had a syllable for you then, something I chattered when I saw your face or when my mother said, *Daddy, Daddy is coming*. You died when you were thirty-two years old. I could be your mother now, but using your given name Mel or Milburn hardly feels right. In that mythic country where parents live large as gods, you are still a father, not a son. Instead I use the word Dad, hesitantly, having never actually said this to a living person.

You died testing the X-2, an experimental rocket research plane that screamed along at 35 miles a second and then fell 65,000 feet. The newspapers called you the fastest man on earth. You set your speed record and turned back to the dry-lake landing strip at Edwards Air Force Base in the middle of the Mojave Desert. Suddenly the plane dipped and rolled. You were knocked unconscious. The X-2 went into an inverted spin. You woke and tried to regain control. Finally you jettisoned the cone of the plane, which also served as an escape capsule. The capsule pitched forward and you were battered again into unconsciousness. Again you woke (all of this recorded by the cockpit's camera) and tried but failed to release your parachute.

No one wanted this to happen. But no one could have been surprised, either. In the 1950s, pilots died all the time. A Navy pilot who flew for twenty years had a 23 percent chance he would die flying—and this did not include combat. At Edwards Air Force Base, 62 fighter pilots died during one 36-week training course. Statistically, a test pilot died every week of the year as he climbed into unproven and unpredictable machines that had aerodynamic quirks such as control reversal or somersaults. Sometimes the instruments lagged behind the plane's actual performance. Sometimes the plane's rockets stopped with a semi-explosion or tail fire. Sometimes the plane went higher than anyone had ever gone before, or faster, or longer. Sometimes you were the first human being ever to do this particular thing, something few people will ever know, a feeling that must have been godlike,

exhilarating, like you were flying into the future as you fulfilled the destiny of our species, defying natural law.

Ad Explorata was the motto of Edwards Air Force Base. Toward the unknown. With its cutting-edge wing shape and heat-resistant body, the X-2 was that unknown, a beautiful mystery. Its own designers were not sure what it could do in the air. Initially they had two X-2s, but one model inexplicably exploded while about to be launched from the belly of a B-50, killing two men. The pilot in the chase plane that accompanied you the day you died had already flown the X-2 higher than 120,000 feet where in essence he was in space, above the curvature of the Earth in a blue-black sky. At that point, the controls went "mushy."

Of course, you begged for the chance to fly this plane. By 1956 you had spent over 3,000 hours in the air and flown all the tricky, experimental Century Series jet fighters. You helped debug the F-100 by, as one observer wrote, "inching steadily closer to the speed at which the plane went crazy." You brought the multi-million-dollar F-105 back to base with an engine fire rather than abandon it. One test pilot put your skills in practical terms, "All the manufacturers used to ask for the guy with the bald head." That was you, prematurely balding, short and slight, with a seemingly shy smile.

Once, when you were flying chase for a plane being tested, that plane also crashed in the Mojave Desert. You landed and rushed over to help. "It was nothing but fire," you would later tell a reporter from *Life* magazine. "The only part I could see sticking out of the flames was the tip of the tail." On the dry lake bed that served as a runway, there were no sticks or stones to break open the Plexiglass canopy and so you beat on it with your fists, despite the danger of the plane exploding. Finally you were able to pull the pilot to safety. He lost both feet. You got a medal.

A few months later, you got the job of taking the X-2 to Mach 3, three times the speed of sound. "Here's to the next lucky son of a gun they let ride the X-2," went a party toast at one of the base's many parties. On the day of your flight, as the chase pilot helped you into your pressure suit, he joked about locking you away so that he could fly the X-2 instead. (He would later die testing a Lockheed Starfighter.) Undoubtedly, you kidded back. You were, my mother once told me, the kind of fun-loving guy who wore a lampshade on his head after a few martinis. As a soldier in the Air Force, your nickname was Happy. Growing up on the family farm in Kansas, you had been a mischievous kid, full of pranks. You had an easy-going personality. You hunted a lot and fished with my grandfather. That's about all anyone ever said—what is contained in this paragraph. After your death, no one really wanted to talk about you much, or maybe they didn't want to talk to me. I think the pain was raw for many years.

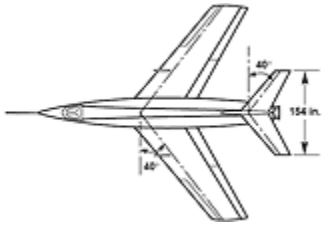
Mostly I learned about you through reading the clippings and articles collected in scrapbooks and kept by my grandmother—from when you were in 4H, from when you were in the war, from when you saved the pilot with burning feet. The stories of your final crash froze your life into clichéd and journalistic language. You became "a member of an elite fraternity whose trademark is courage," a man "whose job is to roll back the frontiers of knowledge," "a cool head," "an ace," and "a doomed pilot on his last ride." One account was particularly hardboiled. That author described you as a "quiet man, of medium build, with very intense eyes." He imagined your last moments, "the brutal

supersonic tumble" and "frantic last-second fight for life." All you needed, the journalist claimed, was five seconds to stand up and pull the rip cord. "They were not given. The sand was coming up at him like a blazing yellow wall. Still in his seat, still conscious, Captain Milburn Apt struck the desert."

I believed every word. I formed you out of need and desire from the pages of *Reader's Digest* and *Aviation News.* In this way, I learned early the importance of story and the power of writing. You were everything I was not. You were an ace with a perfect Midwestern childhood. You were at home wherever you went. You loved your parents. You loved hunting and fishing. You may not, completely, have loved life on the farm, for at the age of seventeen you joined the Air Force and by nineteen you had your silver wings and a commission as a 2nd Lieutenant, the youngest officer from Wilson County, Kansas. You got a degree in aeronautical engineering. You became a fighter pilot in World War II. You married my mother and within six months she was pregnant.

Like almost all test pilots, you were an optimist. Other test pilots died. You would not. You were a patriot. America had won and fought the Good War. We had liberated Europe. Moreover, we were magnanimous in our victory, wise as well as brave, loved around the world. Predictably, we would be rewarded for our virtue. The 1950s were a time of prosperity and expansion. Raised in the Depression, you knew very well how to be frugal. But now you had a caption's salary and a house on the base. You took vacations. You bought a vacuum cleaner for your wife. You believed in progress. You believed in people. We were on the cusp of something great.

I wonder what you would think if you came back today. Lately, I have been seeing you dressed in your pilot uniform, climbing out of the cockpit, holding a space helmet in one hand with its dangling oxygen tube. You have that smile on your face, the shy one you put on for the publicity photos taken by Bell Aircraft, you in front of your various planes. It is 2008 and you have been gone a long time. You missed the last half of the twentieth century. You are eager to learn what we have done with all our can-do spirit, our cleverness, our wealth. I see you looking around for me and my sister, for your wife. But also for the state of the world. By gosh, over fifty years! Into the unknown. What wonderful things have we accomplished in the name of freedom? What wonderful future do we have before us? What new dreams?



The hero. That's the old story, the story I carried for some fifty years. It served me well. As a child, I dramatized your absence. I felt grieved and lonely and special. When President Kennedy was assassinated, when even our fourth-grade teacher cried openly in front of her class, I cried, too, more than the other children. I was privileged by my fatherlessness. I had an entrance into something big, a little scary—a little too big. Still it was something rather than nothing. Your absence became a presence.

And, of course, you always loved me. You were never disappointed in me. You never bullied or ignored me. You never thought, "Why isn't she a boy?" You were never unjust, never merely human. I gave the hero life, and the hero gave me his complete attention as I grew up and marched—that march of progress—into my own future.

It was the 1960s, a time of social reform, civil rights, women's rights, protests against the war, the environmental movement. By now the test pilot program had evolved naturally into the space program, with Edwards Air Force Base offering the country's first formal astronaut training. In my family's mythology, you would have been drawn to that challenge. You would have applied for that training. Like Neil Armstrong—the man who tested the X-15, the next major development after the X-2—eventually you might have walked on the moon.

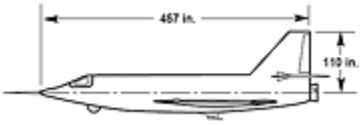
Conquering space was our next great achievement. We wanted to beat the Russians. We wanted another victory. But as pictures of the Earth seen from outside the Earth began to enter our cultural consciousness, something a little surprising happened. As one astronaut said, "That beautiful, warm, living object looked so fragile, so delicate, that if you touched it with a finger it would crumble and fall apart." Another spaceman wrote, "A Chinese tale tells of some men sent to harm a young girl who, upon seeing her beauty, become her protectors rather than her violators. That's how I felt seeing the Earth for the first time. I could not help but love and cherish her." Some of our divisions fell away. We were bound together on one planet, one blue ball that suddenly seemed so fragile and so beautiful.

Working for NASA in the 1960s, the English scientist James Lovelock had the job of comparing the atmospheres of Earth, Mars, and Venus. One day he realized that life on Earth—the totality of living organisms—had created a favorable atmosphere for itself which it continues to maintain at a favorable global temperature. Complex feedback loops include the work of tiny marine algae, weathering rock, clouds, volcanoes, and trees. Although these systems of self-regulation are not purposeful or sentient, they mimic the coherency of a living being. Lovelock called this web of relationship Gaia, also the name of a Greek goddess. The metaphor still works. We live on the body of Gaia. The Earth we live on is alive and responsive, a kind of goddess.

My college years were spent reading people like James Lovelock, as well as other environmental activists. I got a B.S. in conservation and natural resources and then an MFA in creative writing. In the early 1980s, my husband and I moved to rural New Mexico as back-to-the-landers, where we had a house made of mud, an oppressively large garden, too many goats, too much goat cheese, and two home births. We read eagerly now about composting toilets and killing gophers and pruning fruit trees. We wanted to root into the ground, root into place. In doing so, we thought we were on the cutting edge. This is what our culture, our species, also needed to do.

Our naiveté that we could live simply and sustain ourselves on this land lasted about two weeks—or perhaps a little longer. Eventually I began to teach at the local university. My husband worked for The Nature Conservancy. Our children went to public school. I was elected to the local school board. Like most people over a long period of time, we ended up being carried—as though on a river, the movement of water so sure it seemed we were standing on solid ground—by forces larger than

ourselves. Slowly, over the next two decades, our lives became more middle-class. Like you—a captain's salary!—we bought appliances that became necessities. Old home movies taken before your death and stored in trunks were first turned into video cassettes that I watched, distracted, while keeping the peace between my son and daughter. Later, with the house quiet and the son and daughter in college, the cassettes became CDs that my older sister sent me just a few months ago. Some of these films I have seen before, and some I never remember seeing.



Certainly I don't remember the wedding, a casual affair, friends and relatives throwing rice. You walk with that fast gait we see in old movies, the camera also jerking fast, here, there, past too many faces. You stand next to my mother, and the camera jerks away again, leaving me a little surprised. I always knew you were short, "medium-build, with very intense eyes." But my mother is 5'3" and you don't look much taller. Perhaps she is wearing heels. Also, pilots had to be short then, small enough to fit into the cockpit, something like jockeys.

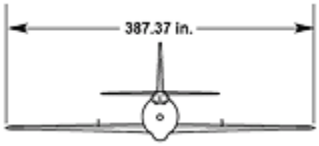
I see you holding my sister in a swimming pool. She is three years old, and you float her in a slow circle. She giggles and moves into your chest, wrapping an arm around your neck. I immediately think: you love her more than you love me. Of course you do. You had five years with my sister, who is adorable. I am not even born yet or hardly born.

I see you sitting in a lawn chair. You squint into the sun, looking grim. You are bald and thin and pale and hairy. As you bounce my sister on your stomach, you might be thinking of something else, for you seem preoccupied. Adult business. Then you smile obediently for the camera. You are… so alive.

Now, over fifty years after your death, I feel angry. You had a wife and two little girls. You had responsibilities. You begged to go up in the air and fly glamorous, expensive machines that sometimes exploded and sometimes fell down. Why? Because you could? Because you were good at it? Because it made you feel important? So that we could have better machines that go faster and higher?

In over an hour of jerky home movies, there are too many scenes of my sister opening presents at Christmases and birthdays, and then of me opening presents at Christmases and birthdays, and far too much of what you saw on vacation (Hoover Dam, the Grand Canyon, snow, trees) and only a very few pictures of you. In each one, I think: there you are! Alive and real, short and bald, looking a little pleased or a little bored, with hairy arms, loving my sister more than me. In each one I think that I would rather have had you alive like this than dead and imaginary and heroic. I think that the hero just wasn't enough, just wasn't good enough.

I think how strange it is to still miss a father when you are a woman with children grown. I suppose I will miss you into my old age. I will miss you always because what and who we are never goes away.



The state of the world. The taste of ashes. The taste of bile. What we do over and over out of stupidity and greed. Everyday, more bad news. The ice caps are melting, coral reefs disappearing, the oceans filling up with plastic. Our most charismatic and beloved animals—lions and tigers and bears—will be gone in the wild. The rainforests gone. The sixth mass extinction. We have transformed the planet. Progress is a joke. Your patriotism is a joke. For some time now, America has failed in every way to be wise and strong and magnanimous. The last person we can believe in is ourselves. How did we get here? You were supposed to protect us. You were supposed to keep the world whole and safe for me and my sister.

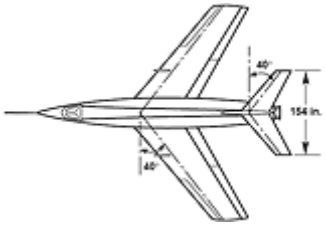
Then an extraordinary thing happened, extraordinary in itself and in the fact that I hardly noticed at the time. I became the hero. I was supposed to protect my son and my daughter. I was supposed to keep the world whole and safe for my children and their children. We failed them, you and I, each in our own way.

You are the old story. Send out the young men. See what they discover. See what they can do. We can fly, and so we have to fly. We can go high, and so we have to go higher. You were young and brave and optimistic. You took risks just because you could, because it made you feel important. There was something fundamental in your curiosity and drive. Your playfulness. Designing and flying the X-2 was as purely human as hunting mammoths and gathering around the campfire. Something as old as the Greek myths. The stories of Prometheus and Icarus. The stories in our bones.

And I am no longer angry with you. How could I stay angry with you? I forgive you for dying. I forgive you for being human after all.

As a heroic symbol, of course, you are now obsolete. We no longer feel so cocky, so positive that we are on the right track. We begin to realize, falling from the sky, that this could end badly.

We begin to realize what mastery means. While the future may well include new technology—making electricity from wind and sun, algae and pet wastes—living on Gaia is not really about going faster or higher in better and more expensive machines. We don't need test pilots. We need mayors who promote green cities. We need organic farmers. We need pacifists. We need people who drive less. We need people changing the meta-systems of law, business, and education. We need people living their lives carefully. We need a multiplicity of heroes, a web of relationships. In the face of loss and sadness, we need to master our anger and greed. We need to keep trying, rooting into this place, this America, this Earth. I need to keep trying.



In a scrapbook, I have a picture taken when you were a boy. It is 1937 and you must be about thirteen years old, standing in a double-breasted suit wrinkled and tight at the chest, wearing a dark fedora hat that is too big. Your arms are stiff, your back straight. Your shy grin is lopsided and knowing. You know this is a silly picture. You are doing this for someone you love, most likely my grandmother. You are standing here, fresh and young, for love. Your eyes look right into the camera.

Underneath the photo, my grandmother has written, “Back in 4-H days. I won the best-groomed contest in Wilson County.” I am interested that she takes on your voice, the first person. She found her way of adapting to your death. She made scrapbooks. She was in her fifties then, when she lost her youngest son, the same age I am today.

Lately I have been studying this picture as though it contained some answer, a missing piece. What is the new story? People live inside us. You live inside me. My father. The hero. And now that child. That boy. He lives inside me, too, and he looks out into the future with such fresh hope that it breaks your heart. He doesn’t know what is ahead of him. I can see it in his eyes. He doesn’t know all the wonders ahead, the darkening clouds of a Kansas storm, the war and the brilliant blue sky above the Mojave Desert, the majesty of the Grand Canyon, snow and trees, falling in love, handfuls of rice, his first-born child, the smell of frying fish, the smell of a plane, the blue-black horizon. Anything could happen. Everything is possible.

It is all an unknown, then and now, a beautiful mystery.

With love,
Your daughter Sharman

Sharman Apt Russell's most recent books are *Standing in the Light: My Life as a Pantheist* (Basic Books, 2008) and *Hunger: An Unnatural History* (Basic Books, 2005). For more information, visit her website at www.sharmanaptrussell.com.

Essay

by Stephen Trimble

"By means of the house we become friends with a world, and gain the foothold we need to act in it."
— Christian Norberg-Schulz, *The Concept of Dwelling*, 1985

I try out the declarative statements. My family now owns land. I own land. I am a property owner. Simple phrases, but with momentous consequences. Our title to thirty acres of mesa and cliff outside of the village of Torrey in Wayne County, Utah, feels quite different from owning a house on a tenth-of-an-acre city lot. Our Salt Lake City neighborhood has been urbanized for a century and a half. Our family is simply passing through, investing for a time in the right to live in a two-story foursquare brick home built nine decades ago. People lived there before us. Another family will follow. Our little back yard, grassed, gardened, and fenced, has been thoroughly incorporated into the human-dominated world.

On the mesa we own eroded rimrock ledges and potholes and piñon-juniper forest and cottontail hideaways and Great Horned Owl roosts. The rains bring wildflowers. Drought matters. Bark beetles consume the piñons. Charcoal under a ledge marks a prehistoric campsite. Mule deer bucks bound away at sunrise. We are the stewards of a living ecosystem.

We love the little patch of furrowed field in our view from the mesa. We would rather see hayfields there than rooftops. We know all the cracks about NIMBYs, the not-in-my-backyard folks who want to shut the door behind them. My wife Joanne and I are acutely aware of just how privileged we are.

Like the other newcomers, I would be happy to slow the very development I've just accelerated. Just like the writer Mary Austin, who arrived breathless in Santa Fe in the 1920s, I simmer with visions of my new home's future. And I wince when I come across a passage in Hal Rothman's *Devil's Bargains* describing the self-important Austin who had hoped "to maintain the special character of the place" by appointing herself "keeper of traditions and arbiter of what was appropriate for the 'real' Santa Fe."

The only traditional resources our land might yield would be forage for perhaps one cow for one month each spring, or decorative flagstones. No humans have ever before built a permanent structure on our share of the mesa. And now we've subdivided this wild land, increasing density by a factor of two; we have become accomplices in the domestication of the open space of the West. I mourn the loss while I celebrate what I've gained—a home. Drawn by the thrill of living so close to wild country, with each step toward the creation of our home here I add a wrinkle to the social fabric, tweak the economy, and nudge the environmental balance of the mesa and its surrounding communities. The changes bounce back, too, and I must reorder my self-image accordingly.

I've struck my deal with the devil.

I know that my family has an impact in the Colorado Plateau backcountry, but I can tolerate this threshold level of disturbance because this is indeed publicland. I have harangued my kids since toddlerhood about how to avoid crushing the living plant crust that shields the soil, that unique black cryptobiotic surface. They can repeat the riff back to me, with affectionate sarcasm. I always believe that since we are surely gentler than more mechanized users, we can't do much real damage. I have a powerful sense of sharing with all who follow us, whoever they may be.

Americans have two competing attitudes about owning this astonishing continent of ours. We treasure our public lands; indeed, the wisest of Western writers, Wallace Stegner, called national parks America's best idea. Public lands are the fundamental source of energy as well as solace, the altar of daily worship for the American environmental movement. At the same time, those famous lines at the end of *Gone With the Wind* ring in our ears. In the last scene ghostly voiceovers from the men in Scarlett O'Hara's life restore her will by speaking of the power of her land, reminding her of the place she loves: "Tara! Home! Land's the only thing that matters, the only thing that lasts. It's from this you get your strength, the red earth of Tara."

Camping on land that is "ours," we drive up the track to the top of the mesa on Labor Day weekend, 2000, and step out onto "our property," onto a piece of the Earth that we "possess."

We will want to engineer our road. Make it passable in winter. Cut through the ledge rock. Maybe even blast…. Should I pioneer the road to the building site though I don't know precisely where it will be?

I realize that I am not ready. I have yet to establish protocols. I don't know when to say yes and

when to say no, don't know how to limit our impact within my comfort zone. So I torment our kids, admonishing Dory and Jake every time they veer their mountain bikes six inches off the road. I see Jake practice skids, and it makes me nervous even when he *is* on the road. Photos from years of newsletters from the Southern Utah Wilderness Alliance light up in my brain—illustrations of tire tracks through cryptobiotic soil, cleated treads wounding the earth, single-track gouges that, when the next rain rips into them, broaden to arroyos.

I sound like a neurotic sitcom character, continually overreacting, but I'm trying desperately to be responsible about having taken on this wild land. My family can't believe the intensity of my feelings. It will be another year and a half before I can laugh at myself—and permit Jake to ride his bike off-road on our land, designating a corridor of ledges for him to bounce down. Why has this become okay? One answer comes from my father, when I bring him to the mesa. He looks around with his geologist's eye and then, incredulous, at me: "That's not 'soil,' it's two inches of coarse sand over bedrock!" He liberates me from my fussy perseverating with an amazed shake of his head and convinces me that our bike trails will disappear when we quit using them, to be swept clean by the wind.

I stand on a ridgetop, a deer head in my hand, my tripod shouldered like a rifle, looking for all the world like a poacher. I hear a truck approaching. I prepare to explain myself.

Our dog, Tika, and I have picked our way around a rimfall where flash floods have poured over the red sandstone, fluting and molding the slickrock in those rare, intense moments when rain pummels the desert. We are exploring the BLM land adjacent to ours. Just before reaching the dirt road that snakes the ridgeline out to Beas Lewis Flats, we stumble on a nearly complete mule deer skeleton with a five-point rack attached to a skull mostly clean of flesh—a picturesque Old West treasure. I collect the trophy, holding on to the smooth antlers. Tika periodically tries to nibble at the scraps of fur on the skull's snout.

I'm always amazed at what turns up when I extract myself from the truck and start walking, keeping an eye out for objects composed for a photograph, waiting for rainbows. I find sunstruck cliffs, cactus blossoming crimson, moonsets in lavender skies. I hear canyon wrens. I smell cliffrose. I find deer skulls.

Then I see the pickup—not a sleek black SUV but clearly local, a rusting rattletrap white truck with an empty bed. There is something vaguely threatening about the way the truck noses down washes where no roads exist. I wave, but the driver is too distant to look in the eye, and the truck never reaches me. Unable to block the unease that comes, unbidden, I turn and head back toward my own vehicle. On this soft November day, alone again, the peace of immersion in redrock returns to calm me.

I park along the highway in the mouth of the little canyon below our house site. I leave the pavement and walk up the wash, headed for our woodpile, where I plan to leave the skull. Suddenly I intersect fresh tire tracks where there is no road. I know I tend to be self-righteous about off-road vehicles—my youthful park ranger persona resurfacing. But wheels damage the land and invite further trespass. At first merely irritated, I simmer easily into my youthful impersonation of a full-fledged authority figure defending the land from destruction.

I hear a motor, and the same rusting white pickup emerges from behind the piñons. The driver must have come in from the highway, as I had on foot. We are on my land, now, or close to the boundary. I am in control. I am not just The Ranger; I am The Owner.

The truck pulls up; I see a jittery man, sixtyish, scrawny, with a hard edge that the warm and forthright local ranchers never have. I talk to him through his open window: "What are you doing back here?" Clearly nervous, he replies, "Just driving around."

"Why?"

"Looking for rocks."

I respond without hesitation, "Well. This is my land. The land coming up here is also private. And this is *not* a road. Please don't drive up here *ever again.*"

He's quick to say, "Okay," quick to escape.

I listen to myself, nonplussed. When I saw him at a distance on public land, I granted power to this man, seeing *him* as the insider. Now I have the power, fueled by the outrage automatically conferred by the complicated myth we call ownership, by the landowner's peculiar self-granting of authority. My role reversal stuns me. I sound just like one of those too-fierce defenders of private property rights who have always aroused my suspicions. And normally I don't even feel comfortable describing our place as "property." I prefer "land."

Now, on my land, without pausing to consider the irony, I have acted as imperiously as the wealthy, the powerful, the insider—The Man.

Another trip. Dory and I camp on the land, parking at the house site. An antiphonal chorus of coyotes sings out just as we click off our headlights and let the ebony night flow over us. Nighthawks work the updrafts along the rim as we drift in and out of sleep, their cries punctuating the bass-drum booms that their feathers draw from the wind.

Sunrise the next morning hits the top of the Cockscomb, a brilliant white-gold flare on the Navajo sandstone cliff. I'm partial to the monumental, transcendent stripes before me: red Moenkopi ledges in the foreground, piñon-green hills and mesas midground, then the sea-monster ridge of the

Cockscomb spotlit by shafts of sunlight from the Fresnel lens of moving clouds. The green-black mountain rises beyond these as backdrop and finally gives way to blue sky, with strokes of cloud swashed across the firmament.

And that's just the view to the south.

In the still cool air I write these thoughts in my journal as I listen to the ravens and red-tailed hawks that nest on the cliffs within a couple of hundred yards. I hear the croaks and cries when the adults flap off their nests to hunt and return to eggs and fledglings—generation to generation, here, sharing our ledges. Dory sleeps in the back of the truck; the drone of vehicles on the highways is nearly constant. Once more I grapple with the paradox of wildness and civilization.

There is a hole in the living room. Our contractor, John Sammond, supervises the first bites into the mesa with heavy equipment in late August 2002. A track hoe grinds up the road to the mesa.

John takes out the few trees we must lose. Once we have given our final, final approval to his precise stake-out—after moving the footprint five feet west, two feet south, pondering, moving it back, and moving it again, trying to position the house sensibly in relation to the rim—he proceeds with digging the foundation. I blush at our dedication to getting this decision just right. And yet the rim has an integrity we can feel, and we do not want to crowd it.

The track hoe scrapes against the rock, lifting out huge stones. The operator piles them around the house site, six feet high, for later use as walkways; no need for us to import just the right stone from Vermont or Idaho. Huge chunks of ledge nudge right up to the BLM line, around the trees we are saving, against the woodpile. The site looks like a quarry, but at least it doesn't yet look like a war zone.

At the end of the day I see the machine parked on the ridgetop, daylighted against the sky. After the builders have gone home, I climb into the cab and grip the shifters and throttles. Even with the engine still, it gives me a bracing sense of power and control.

In transferring decision making to first the architect and now the builder, I have conveyed a measure of responsibility to them. We chose to build this house on this spot. We carefully screened our contractor, John. Now it's his turn, and he is perfectly calm about it. John's only concern is for how I will react: "People aren't ready for how different it looks. This is a lot of change."

On my next trip down from Salt Lake City the outline of a house zigs and zags across the

excavation. Footings have been poured, forms for walls built, and I can stand more or less at ground level, admiring the view from each imaginary room. I help hold the hose that feeds pulses of concrete from the clanking truck into the wall forms.

The pulses come a bit faster than once a second. Heartbeats. Thousands of pounds of pressure per square inch. It's definitely a macho experience, downright ejaculatory. Shaping wood and stone and concrete with these big machines—this has to affect the souls of the men (and it's mostly men) who do this every day.

Two weeks later the walls begin to rise. We are building with SIPs, structural insulated panels—six inches of Styrofoam-like insulation with a layer of aspen chipboard on either surface. The material provides superb insulation, reduces the numbers of trees consumed by our house, and goes up like Legos. As the walls rise, flanked by those of other houses along the nearby ridgelines, the low-profile silhouette on the mesa is reassuring. We haven't designed a castle. We won't feel like pigs.

In February we stand inside the house as the stucco goes on outside, a half dozen "stucco guys" smoothing on the compound in circles. They work fast. The sound from within is elemental. Their masonry tools scrape and shape the surface of the walls in a controlled frenzy, timed just so. It's the sound of a glacier grinding off the skin of a mountain. The sound of rapids. The fundamental sound of humans building, whether they work with Ndebele adobe in South Africa or European stone in Chartres. It's the sound of a blender concocting from earth and tint and acrylic the colored shell—the carapace—in which we will live for years.

We are daunted by just how substantial the house has become. We wanted "the not-so-big house," the small flexible space popularized by the writer and architect Sarah Susanka; we had budgeted for a few fine details rather than the standard suburban excess of square footage. But engaging an architect—even one concerned with sustainable building practices—generates an unruly momentum. Our house hasn't turned into a castle, but it has grown incrementally larger than we anticipated. It's close to being a primary home rather than just a cabin.

Our contractor tells us that we process decisions more completely than any clients he has ever had. John makes this comment just as Joanne and I have been saying how painless it has been to build this house, how we have felt reassuringly decisive and in tune with each other. Our kids have perfected a parody of our relentlessly detailed decision making.

Even though the SIPs take longer than anticipated to frame around all the corners in our idiosyncratic design, John finishes in six and a half months. I sequence my slides to create a time-

lapse story of walls rising, roof appearing, stucco applied, staircase to roof tower completed.

The house on the mesa is done.

The change from seeing a rock ledge where we camp and dream of a house to standing *in* the house—looking out the windows, walking out the French doors to the plaza with my morning cup of coffee, standing on the rim and looking back at the house, our house—astonishes me. From our bed alcove at dawn we see flares of orange light on beam and earthy stucco, with the snow-spackled forest of Boulder Mountain deep and dark behind. Watching the play of light move across the house equals the pleasures of contemplating a sculpture or an earthwork. The angles and framing lines interact with rock and horizon—*respond* to the landscape—and prompt us to think about our placement within that landscape as individuals, as a family, as members of a community.

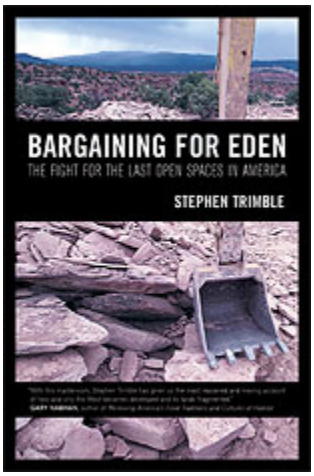
This is one value of private land, then: to personalize a relationship with a place. It's reminiscent of the familiar feeling of creating a campsite on public land—the kitchen next to a ledge, the tent backed up between two junipers, camp chairs perched on the rim—an argument with comfortable predictability for the few days we live there. Only now the feeling of home is solid. Substantial. Our home is built to last for decades, into the next generation. This new permanence is moving; in its statement of ownership, of affluence, of dominion, it's also unsettling.

My crazed worry about change was superseded by engagement with the process. I took the trenching and tracks and compacted earth and lost trees in stride. We replaced the wild rim with a home, a domicile. We took a stand, created a physical presence to express our affinity with this place. And we're not done. I tick off an endless series of projects: laying rock walls, cutting firewood, managing invasive weeds, planting native seeds.

As we begin to use the house and dwell within its space, gradually our identities shift to incorporate our relationship with the mesa in our definition of home. After two weeks in the city, views from the mesa haunt our dreams. The warmth and light and freshness of the wind in this one place become fundamental to our definition of everyday joy. On the mesa we walk into a postcard and turn to look back at the rack of scenic views framed by our windows. As soon as we frame the view, limitless wildland becomes "landscape," "scenery," complicating nature with culture.

We have tried to create a house that engages us with the land we love. But we built on a mesa within sight of Torrey—not somewhere tucked away in the wilderness—and now we owe our neighbors something in return. We will need to explore the meaning and practice of good citizenship in our new community. Wayne County's measure of our bargain awaits us.

View slideshow of 15 Stephen Trimble photographs from *Bargaining for Eden* at www.terrain.org/essays/23/trimble.htm.



"Devil's Bargains" originally appeared in *Bargaining for Eden: The Fight for the Last Open Spaces in America*, by Stephen Trimble (University of California Press, 2008). It is reprinted with permission.

Bargaining for Eden investigates the high-profile story of a reclusive billionaire who worked relentlessly to acquire public land for his ski resort and to host the Salt Lake City Winter Olympics. In a gripping, character-driven narrative, based on extensive interviews, Trimble tells of the land exchange deal that ensued, one of the most controversial in U.S. history, as he deftly explores the inner conflicts, paradoxes, and greed at the heart of land-use disputes from the back rooms of Washington to the grassroots efforts of passionate citizens. Into this mix, Trimble weaves the personal story of how he, a lifelong environmentalist, ironically became a landowner and developer himself, and began to explore the ethics of ownership anew. We travel with Trimble in a fascinating journey that becomes, in the end, a hopeful credo to guide citizens and communities seeking to reinvent their relationship with the beloved American landscape.

The breadth of **Stephen Trimble's** awards mirrors the wide embrace of his work: The Sierra Club's Ansel Adams Award for photography and conservation; The National Cowboy Museum's Western Heritage "Wrangler" Award; and a Doctor of Humane Letters from his alma mater, Colorado College, honoring his efforts to increase our understanding of Western landscapes and peoples. Trimble makes his home in Salt Lake City and in the redrock country of Torrey, Utah. *Bargaining for Eden* is Stephen's 22nd book. His website is www.StephenTrimble.net.

Essay

by Katherine Jamieson

My skin failed me that first summer in Guyana. I tried pasty lotions and wide-brimmed hats, long sleeves in the midday heat. Still, I turned bright red: I shone like a cherry. *Miss, like ya get burn up?* my students said, pressing a finger onto the red glow of my shoulder. *Ya must careful! Sun hot!* But there was nothing I could do. Skin peeled from the part in my hair. Light streamed through my gauzy curtains, and when I left the house it burned through my clothes. It colored my days and savaged my pores until I was red and raw, until I could no longer remember what it was to be touched without wincing.

Dugout canoe docked in a creek near an Amerindian village in the Northwest district of Guyana.

There are no vestigial British aristocrats in Guyana, none of the blowsy, post-colonial garden parties you might imagine in Barbados or Jamaica. The English lost sanity in the heat, counting up mosquitoes by the thousands. Eventually they gave up and sent Scottish farmers to oversee the plantations, leaving behind generations of McCurdy's and Douglases. I was one of only a few hundred white faces in the city, and the others were ravaged like mine. Guyanese call albinos "devil-whip." Blue-eyed and freckled, their skin is tawny and thick like a scar. The Guyanese with Portuguese ancestors have wrinkles that crumple their skin, starburst lines radiating out to their bleached hair. Every evening in my mirror I saw the day's burnings. In their faces, I saw a lifetime's.

Amerindian children line a hilltop to welcome visitors to a village near Moruca.

Coastal life in Guyana is a temporary concession between two powerful neighbors: to the North, the Atlantic which mingles its muddy brown into the clear Caribbean Sea miles off the coast; to the South, the "Interior"—vast jungles, savannahs, river ways, and mountains, inhabited by some of the rarest flora and fauna in the world. The land is massive, thousands of tracts of virgin rainforest stretching across to Venezuela and Suriname, down to the Brazilian border. I lived, as the majority of the population does, in a narrow band of cultivation along a one-road highway, just miles from blackwater creeks that wind down to Kaieteur, one of the most powerful single-drop waterfalls in the world. Humans have created a viable habitat here, growing rice and sugar, irrigating fields, and building roads. These tasks are backbreaking and the results require constant diligence to maintain. When abandoned, the land quickly reverts to overgrowth. Life here is a constant campaign against an encroaching jungle.

There is lore that North Americans adjust over time, that their blood thins (or is it thickens?) in the constant heat. This did not happen for me. From the night of my arrival at Timehri airport, I sported small beads of moisture across my forehead and nose. My Guyanese friends laughed at my inability to "acclimatize," and took to pointing out how often I was sweating when they were not even hot. My constitutional deficit plagued me, and I wondered how others managed to rise to the demands of tropical living. Sun and insects were the grounding factors of my life, the burns and bites a constant reminder of where I was, and the physical battle I was always losing.

The sun was at the heart of it, impassive, granting its twelve hours of sunlight to all equally. Yet its constancy made it seem a foreign sun, very different from the one that had once merely tanned my skin and warmed my face. Because Guyana is just north of the Equator, daily, throughout every month of every year, the sun is at its strongest, rising at 6:00, setting at 6:00. It often seemed to pulse with white light, and it is this sensation that I remember most, a constant rippling that emanated from this blinding yellow ball in the sky.

From the sun came the heat, which seemed to bear down separately, an unwelcome layer resting on me, as willful as another being. It felt like many small children clinging to my body: one at my hip, two on my legs, another splayed across my chest and head. At first they are manageable, benign, but they soon begin to get heavy. You can't put them down, they are clutching at you. Other times it seemed a parasite. My body was inhabited. I became a complex system for the simple act of diffusing heat.

My burns always surprised me. They seemed to appear from the inside out, a new layer of skin

forcing its way to the top, then peeling off in delicate ribbons. My fingertips, as they had applied the lotion, were often visible in the outline of crimson. In a vain attempt to stem the pattern, I once sat under an awning for hours at a school event. My colleagues laughed at me at the end of the day: *Miss Katrin, like ya still get red!* Every part that wasn't covered—my face, arms, and neck—was singed. I learned later that I had been burned from the reflection of the sun off the grass.

On the Potaro River, the 741-foot Kaieteur Falls in central Guyana is one of the world's most powerful waterfalls.

While the sun was of constant concern, it was flying insects that taught me the most about the life and death of the body. Sunlight and heat are general conditions, but the attentions of a fly or mosquito are a personal torment. They act as one unit, one encompassing blight: one fly is all flies, one mosquito all mosquitoes. It is rare to spend a moment in Guyana when something is not flying or landing near or on you. The air I breathed was often a swarm; I swallowed more than I care to remember.

Every time a fly walks on you it is a foreshadowing of your death. Tropical flies are persistent and, after awhile, there is no energy left to brush them off. They are satisfied to just watch and circle, like buzzards, exploring every crevice of your body to determine how useful you will be to them if you die. At first it is a ticklish feeling not entirely unpleasant, but each time you have to accommodate its legs, its disregarding death-filled eyes, you lose a little bit of your body. Flies leave you with no dignity. Their work is to scavenge you, even as you live.

Mosquitoes are a constant reminder that to live is to suffer. Malaria, passed by mosquitoes and endemic in Guyana, does not usually kill you. One type of the disease, *falciparum*, will make you very sick, with skyrocketing fever and rashes. The other, *vivax*, quietly enters your liver, forever. Mosquitoes are a kind of religion in Guyana, demanding rituals for prevention and destruction. Weeks are spent clearing standing water, where they breed, patching holes in nets, burning toxic green coils inside and enormous pyres out. Regardless, the air is thick with them for months on end.

Regions of Guyana close their schools during mosquito season. A friend told me of being chased by swarms, carrying repellent with her as an urban woman carries mace. On a boat trip across the Berbice River, I once watched as the back of my companion's white shirt was spotted with twenty, then thirty, black dots. I brushed them off; twenty more appeared. They are most active after dusk, but at times I imagined that at every moment, a mosquito was on me, near me, or—paranoid from the incessant whining high in my ear—inside me. Exiting the mosquito net in the morning, the first bite is an outrage, the second an insult, the third an annoyance, the fourth, or millionth, a bitter defeat. Eventually, my skin stopped reacting to the mosquito saliva, did not swell, hardly itched. But the humiliation of the initial prick is eternal, the insertion of the microscopic proboscis a

violation, a theft of blood to perpetuate a species that is a bane. Mosquitoes steal their lives from us.

The Guyanese word for the cumulative effect of tropical indignities is "stink." Stink is curdled sweat, sweat that has turned rancid. It is every drop of a day's working, sitting, breathing sweat, from the first beads as you walk out in the morning, to the most recent emission from your exhausted pores. Stink is about exposure: the battles with light and heat that demand carrying a handkerchief to mop your face and covering babies' heads with knit caps. It is the lost tranquility from tangles with flies, the lost sanity from encounters with mosquitoes. Stink is a wringing out of your body until the worst smells emerge, and, if not purged, the worst disease.

There is only one redemption. To reclaim the unscathed body that emerged into the world that morning, you must bathe. Bathing happens in small concrete rooms under an open pipe gushing only cold water. During blackouts, when water does not come to the pump, it is done from a bucket. It is a singular pleasure.

Standing in a pond created by the force of the waterfall near Mount Ayanganna in the Pakaraima Mountains of Western Guyana.

This is how the Guyanese taught me to do it: First, let the cold water run over you. Wash off the top layer of powder and perfume, blood, cow dung, mucus, tears, mango juice, and minibus exhaust. Heat draws down; blood recedes from the surface. Turn off the water and soap your skin to a thick lather. Do not overlook an inch or a crack because here is where the rash will begin. Scrub the dust from your hair. After you are thick with foam, munificent suds cresting, let the icy water run its numbing deluge. A simple alchemy—skin, water, soap—but it never fails to restore the memory of that first skin, before the burns and scars, before the day.

This cycle of daily physical corruption and ablution became a marker of my two years working in Guyana, proof of the regularity of miracles. My mind was educated before I came to this country, but my body was not. I had never experienced such relentless exposure to the extremes of the natural world. Surviving the physical environment was not just a personal quest, it was part of my work. In the end, the lessons were simple: rest, bathe, heal. Take the world into your body, and then, as gently as you can, let it go.

All photos by Kathryn Jamieson.

Katherine Jamieson holds an MFA from the University of Iowa, where she was an Iowa Arts Fellow. Her work has recently been published in *Narrative Magazine* and *Tiferet*, and is forthcoming in *Ode* and *Edible Pioneer Valley*. "Educating the Body" is a stand-alone essay from a manuscript about her experiences living in Guyana.

Essay

Report from Monona County
Mysterious Work

by Kelly Madigan Erlandson

We have made some progress in learning to be warm here, carrying in space heaters, sliding a heating pad between the sheets. The two women who were here before left many things, including four knitted afghans which we have laundered and draped over the chairs. Still, it is an old farmhouse in a remote valley, and the forced air furnace heaves on and off, pushing cold against the edges.

The coffee cup feels good in my hands this morning, though risky. I haven't been right for weeks. My belly distends with aftershocks from eating even the smallest portions, wakes me up at night. Something I can't swallow or can't stomach sent me to ultrasound imaging, where a wand in the hand of a young girl pointed in turn at each of my abdominal organs: *There's your gallbladder, that's your left kidney*. The grey images reminded me of my first views of my unborn daughters, a glimpse of what my parents and grandparents couldn't see until the child appeared in the flesh. Here were my organs, hard at their work, a mysterious work I couldn't begin to explain.

The first time we drove up to the house at dusk, the fields were filled with deer. My husband and I had finished signing the paperwork that afternoon. My youngest daughter and my son-in-law ran up the snowy hill behind the house to count the deer, pointing them out to one another. On the neighbor's hill behind us the next day, the dark shapes of turkeys moved in synch with one another.

Each morning here, at first light, deer forage in the stubble field beyond the pond and the alfalfa field behind the barn, and we peer through the kitchen window with the lights off, or sit on the glass porch with the space heaters on, watching their quiet movement.

Last weekend I hiked beyond the fields and partway into our wooded hills for the first time, slowed by this thing I cannot digest. I haven't yet had the stamina to walk the property line, but I followed the path of the deer through the snow and over fallen trees, their black pellets not yet frosted over, and sat on the hillside in the woods, letting quiet do its own mysterious work. Tiny birds I couldn't identify made a sound like a bell ringing as they flew from one treetop to another, and occasionally a muffled gunshot sounded from the state land to the south. In the intermittent stillness, I asked for a healing.

On the slow way back, I spotted scat so big and smooth it had to be cougar, and I took it as a sign. Though not their favorite prey, cougars will eat porcupines, and have been found with partially digested quills in their stomachs with no apparent ill effects. My stomach has something to learn from the resident cat.

My doctor says my organs look fine in the ultrasound, so she orders a swallowing test. The radiology tech hands me a cup of fizzy liquid to drink that creates air in the stomach, followed by a cup of thick white liquid which the radiologist can watch as it moves through the esophagus and inflated stomach and the first part of the small intestine. I down them quickly, as instructed, and the fast shutter snap of images begins. Every internal process the radiologist sees works efficiently; nothing is blocked or broken.

Last week we walked through all the rooms of the barn, an old red one a previous owner saved by tinning the roof. Because some doors were lodged shut, we had to climb over troughs, feeling the smooth valleys in the edge of the wood from the sturdy necks of animals who fed there. Up in the hayloft, mud dauber and barn swallow nests lined the rafters, all quiet in the twenty degrees of January.

We own several bales of something, straw or hay, which we don't know the first thing to do with. A window on either end of the hayloft swings open, one facing the south fields and the hills beyond

them, and one overlooking the pond to the north. We talk about sweeping out the neglect up there—another item for the list of things to come, which is already several years' worth.

Down at the edge of the frozen pond we stumble on the remains of a wooden rowboat, a skeleton really. It is the third boat we have found on the property. Two wood duck nests dangle on posts, one with the floor and roof missing. My husband walks out across the ice, learning the size of this body of water, and I skirt the edges, walking where the two-toed deer have left their prints.

Today my sister-in-law helps me clean out kitchen cupboards, emptying, sterilizing, deciding what to pitch. We've taken down old drapes, given away trinkets and knick-knacks, and made beds with new flannel sheets. The place is beginning to smell like bleach and dish soap. As we work, my nephew sits on the porch, binoculars pressed against his face, and spots five wild turkeys walking the crest of the hill.

In this house, I pick up item after item, saying, *What is this for? What do you do with this?* Sometimes no one knows, and sometimes my new neighbor, Eileen, tells me this iron rod was for moving pans on the wood-fired stove. This house was once her brother's, and she grew up in this valley, in a house north of here that has since been razed. She lives a mile away now, with her husband, dog, and twenty peacocks. She is one of our closest neighbors in this nearly empty county.

The nurse from my doctor's office calls with results of the lab work. There is a bacteria living in the lining of my stomach, a spiral-shaped bug that won two men the Nobel Prize when they first discovered it. Prior to that, researchers believed that no bacteria could live in the acid environment of the stomach. One of the men substantiated his theory by purposely infecting himself with the bacteria. The lab detected it in me through antibodies in my blood.

Fourteen days on two antibiotics and an acid inhibitor ended yesterday, and while not well, I am improving. Today I had my first cup of diluted coffee, with no ill effects. My belly is slowly waking up, ready to resume its work as long as it isn't overtaxed.

Scientists do not know how the *Helicobacter-pylori* infection is transmitted—perhaps through

contaminated food, or oral contact with another infected person. It is more common in developing countries. My doctor seems interested in my frequent exposure to river water on kayak trips, though she cannot say if that is the cause.

The Helicobacter Foundation reports that many people harbor *h-pylori* undetected and symptom-free for years and don't require treatment. Others respond with inflamed stomach linings, peptic ulcers, and ultimately the onset of stomach cancer. Because *h-pylori* lives in the mucus lining of the stomach, the body's natural infection fighters are ineffective. They either get wiped out by stomach acid before an attack can be mounted or they find it difficult to penetrate the stomach lining. Our hope is the two-week antibiotic regimen killed the bacteria, and now my irritated stomach just needs time to heal.

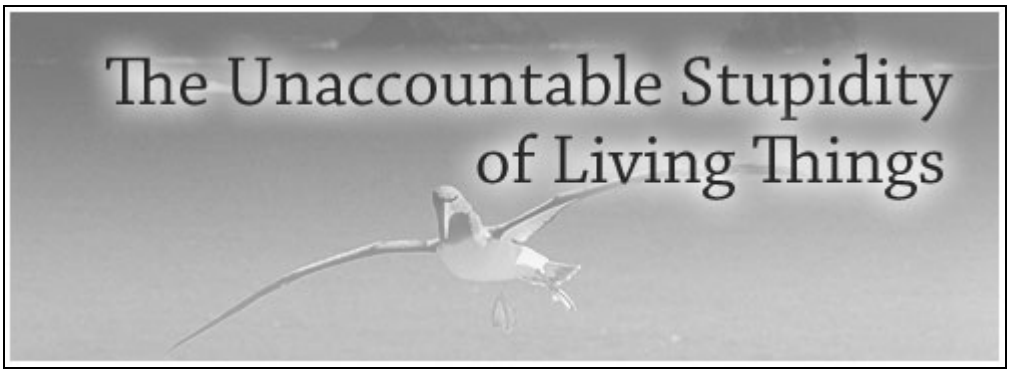
As I fell asleep last night, I could see stars above the hill out my window. At two o'clock in the morning, awake for no reason and listening to the unfamiliar sounds of the house, I heard what at first seemed to be a distant conversation, a wavering stop and start from somewhere outside. Then one high, long note sounded and I knew it was coyotes, somewhere in the hills, noses pointed to the dark sky, singing and yipping.

Today I am listening to my body, practicing moving slower and letting others care for me in their tender ways. I am a little stronger than yesterday, the bacteria flushed, the old linens washed and aired, midway through a season of repair. I have asked for a healing, and the answers have been cougar, mud dauber, starlight, turkey, doe, swallow.

All photos by Cora Fox.

Kelly Madigan Erlandson is the author of *Getting Sober: A Practical Guide to Making it Through the First 30 Days* (McGraw-Hill). Her poems and essays have appeared in *Best New Poets 2007, Crazyhorse, garrtsiluni,* and *Prairie Schooner.* Kelly's web site, which includes links for online help with addiction, is www.KellyMadiganErlandson.com.

Essay



by Anca Vlasopolos

"[W]hat havoc the introduction of any new beast of prey must cause in a country, before the instincts of the indigenous inhabitants have become adapted to the stranger's craft or power."
— Charles Darwin, *The Voyage of the Beagle*

"[In 1742] they found an immense, slow-moving, previously unknown creature living in the shallows.... By 1768, Steller's Sea Cow was gone."
— Carl Safina, *Eye of the Albatross*

In his journal of the whaling trip on which his health was restored, Olmsted writes of the boring days at sea, when the ship, becalmed in equatorial zones, barely moved on the surface of the water. He recounts how he amused himself by shooting the many seabirds that scavenged on the refuse thrown from the ship or just happened to travel nearby: speckled haglets, six albatrosses in one day, petrels, the black Monimoke. He is not after specimens, but he does desultorily collect feathers, generously distributes them among others on board, and occasionally takes measurements, so as to tell the folks back home of the wondrous properties of the corpses he observes. Often, like most warm-blooded things living in and on the sea and easily caught by men on board, these birds end up in the cook's pantry. Albatross, as we know, makes delicious fricassee. Alaskan sea cows, who from white men's discovery to species extinction had twenty years left in which to mate, according to Steller, like human beings, face to face in languorous embrace, also possessed to their detriment meat that tasted like tender veal and fat that had the fragrance of toasted almonds.

On Desolation Island, men feasted on sea elephant. Desolation for whom? Of the seal colonies, by 1817 only four animals remained, which the British ship *Eagle* promptly dispatched. Clubbed to death, their meat prepared for eating, the sea elephant carcasses yielded oil in much the same way as the whales, through fat rendered in tryworks erected on shore. On this island barren of trees, crushed bodies and feathers of penguins fueled the fires. By 1892, only a little over fifty Pacific sea elephants remained.

Throughout the nineteenth century, the Galapagos became the meat locker of whaling, merchant, military, and exploring ships. Boys with switches, Darwin tells us, stood idly by a spring and

whacked songbirds over the head when they came to drink, so stupid were those isolated species at guessing the malignity of the biped invaders. Two-hundred-year-old tortoises, six-hundred-pound terrapins "surpassed by nothing in the catalogue of *gastromanie*," young seal, whose flesh "was tender and delicate like that of a pig," porpoises whose dark meat is like liver, sea turtles, seabird and turtle eggs, all made excellent provisions on ships, where men hungered for bloody flesh instead of the rancid salt strips handed out from the store provisioned at the beginning of voyages that sometimes lasted for years. When they could, the men took these wild animals live, as they took goats and pigs and chickens and other fowl from the natives all over the South Pacific, trading beads and cloth and tobacco and cordage and knives, leaving behind syphilis, rats, roaches, a missionary, a couple of deserters, some bibles. They kept the animals on board in pens until they ate them.

Whaling journals are full of passages of sailors' delight at the sport of dolphins around the ship, their joyful leaps, and then the delicious steaks made of the ones speared, whose oil, superior to all whale oil except spermaceti, would be sold to watchmakers, music-box makers, and other handlers of fine machinery. The ships landed on uninhabited islands that were breeding grounds for many of Steller's species, as well as for others, some of which somehow remain. The men would kill deer, boars, monkeys, seals, sea lions, petrels, eider geese, albatrosses, dodos, finches, lizards, turtles, tortoises. They would take eggs, they'd skin the animal, eat, or waste the meat, depending on its resemblance to what the men were used to—the cows, chickens, pigs at home. They balked at eating dog.

To this day, governments and native-rights groups talk about the use of the sea as agricultural fields, a simile winding from the seventeenth century to the twenty-first. Pro-whaling anthropologists still ask, what if whale-hunting countries "were to decide to focus on the wholesale slaughter of cows, pigs or sheep as an 'ecological' issue?" (*Japanese Whaling*, 8), as if such a question did not already set off a thousand bells sounding the alarm for global ecologies. The sea, God's pasture, provides us with the harvest that is ours to take, not by neither spinning nor toiling, but by dangerous exertion—our culling, our gleaning, our spilling, our eating.

In 1887, Manjiro's entrepreneur friend, Nakaemon Tamaoiki, showed up on Torishima, accompanied by about twelve men and women. They set up camp and began building more permanent habitations. They had come, as Manjiro had advised Tamaoiki, to kill the large birds whose pretty feathers would make them a good living, whose flesh, depending on the season, would make fair eating or good fertilizer for the island's arid land, whose rendered fat would light their lamps and oil their equipment. Nothing wasted. Everything used, even the beaks, the pink and gray-hued feet. And the birds were there, just as Tamaoiki told them, from November to May like clockwork each year, in multitudes so thick the slopes looked like the sacred tip of Fuji-san, snow-pure. They were there for the taking, so many that in two years the people built a light rail to transport the corpses from the nesting slopes to the makeshift factory where they skinned them. So

many that more people came, and they had to set up a primary school for the children. Numberless birds; well, not numberless, since Tamaoiki kept ledgers in good order. About three hundred thousand a year. Nearly forty tons of feathers to be sent to the West through the trade routes now definitively opened by Perry and his black ships.

By December, the birds had settled in breeding colonies on the ridiculous ground nests they'd made, hardly respectable, just indentations in the gravel and grasses, and so stupid. What brainless creature puts its eggs on the ground, where any predator can get to them? And they only laid one or two eggs at most. One egg! Easy to roll off and big enough, six or seven times as big as a chicken egg, to make a good meal for a whole family. Break it over some nice hot rice. Use it, like the Taiwanese, in special moon cookies whose luck potential rises from the moon-like yolk of birds that despite their heft defied gravity and rose, like dreams, high, so high, like dreams, fading into the horizon. The men were still curious about these creatures. Would nothing move the birds? They'd got sackfuls and wagonfuls of them just by clubbing them in mid-air, as they came swarming back to the island, or while they were hatching the eggs. The other birds watched as their comrades fell over, like toys, like pins in a game, and they still didn't move. They must be the stupidest things in Creation.

Then the men thought that perhaps something different, a new danger, would wake the self-preserving instinct in these dumb birds, which almost didn't make the killing fun. The slicing blades of the grasses had gone dry again, and the men set fire to a clump close to a nesting albatross. The bird let out a guttural roar—what ugly voices they had, too. The clump started burning briskly. The men began to worry just a bit since the breeze could fan the fire over the whole slope, and they did want the feathers, not just grilled meat. They began stomping out the flames in a circle around the nest, but they let the fire spread toward the bird sitting, moving its head and roaring, till its feathers were on fire, too, and it still did not abandon its egg, and it roared louder now. As the men, mesmerized, watched it go up in smoke, it stopped making any but the fire's sound. And the men did have roast bird and roast egg for supper, and they shook their heads and laughed at nature's quirks, the way it made such stupid creatures, just for the humans' taking.

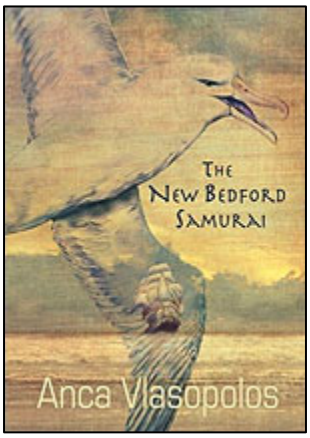
More and more men and women came to the island where the living was hard but the hunt was easy, and the money brought by the feathers would give them and their families, and even their parents back on the mainland, a bit more of a future. They built little houses that resembled, insofar as the material could be brought over, the fishing-village houses at home, straw and mud and paper. They settled in, on Bird Island, a chunk of rock barely rising from the ocean, heaved up by the volcano's belch, this volcano whose crater breathed steam each day. Once the albatrosses left for their summer grounds, the settlers spent their time processing what they hadn't already turned over to the merchant ships that carried the bounty back to the Tokyo markets. They did what little farming could be done on a rockbed, with precious water saved in makeshift cisterns.

By 1902, a mere fifteen years from the first "harvest," five million birds had died at the hands of the Japanese so as to adorn the bodies and headdresses of Europeans and Americans. One fine August night on this island bathed by the Black Current, whose angry waters were nonetheless balmy and brought such warmth, the volcano woke up. And this time it wasn't just steam. Like tongues of a gigantic dragon, the lava flows came slithering down the slopes, so fast that not one of the people

asleep in their huddled village, with its miniature rail and its small school, heard them, or heard them in time. Fire burned all ahead of the dragon tongues. Ash and cooling rocks covered everything after, spilling into the harbor so as to make landing even more dangerous. All the humans on the island died that night. Only when a ship came from the mainland to check on the water supply of the islanders did the story reach Japan. Torishima had erupted, again, but this time the nation's eye was upon it, so the eruption was noted and recorded, as was the human toll, something over a hundred—the entire hunting colony.

"The Unaccountable Stupidity of Living Things" originally appeared in *The New Bedford Samurai*, by Anca Vlasopolos (Twilight Times Books, 2007). It is reprinted with permission.

The New Bedford Samurai is a non-fiction novel blending the life of Manjiro Nakahama—a runaway, illiterate Japanese boy who in 1841 embarked on a fishing boat alongside four older men—with meditative chapters on the environmental effects of 19th-century globalization.



Anca Vlasopolos is the author of *The New Bedford Samurai* (Twilight Times Books, 2007); *Penguins in a Warming World* (Ragged Sky Press, 2007); *No Return Address: A Memoir of Displacement* (Columbia University Press, 2000); a poetry e-chapbook, *Sidereal and Closer Griefs*, print chapbooks *Through the Straits, at Large* and *The Evidence of Spring*; and a detective novel, *Missing Members* (trans. *Miembros Ausentes*, Madrid, 2009). She has also placed over two-hundred poems and short stories in literary magazines.

Essay

by Deanne Stillman

Part I: The Horses Return

They must have known they were coming home for nothing else can explain their survival and perhaps only that knowledge deep in their cells sustained them. Horses are animals of prey and they like the wide open and therefore to be constrained on the decks in the hot sun or between decks without light or means of escape for two or three months would have overloaded their circuits. Threats hung in the air and everything was new and strange. Where once they smelled land and grass and legumes, they now would smell salt air mixed with the galleon stench; where once they heard the sounds of their own hooves on the fields of Europe, they now heard the uneasy creak of wood as the giant brigantines hove through walls of water; where once they were calmed by the nuzzling and grooming of their band and family members in each other's manes and necks, they now were held in place with slings and hoists, touched and reassured not by their own kind but by the men who were in charge of making sure they had safe passage.

Nevada mustangs at Lifesavers Wild Horse Rescue in Lancaster, California.
Photo by Mark Lamonica.

These were the horses which carried Spain to victory in the New World. During the years of the

conquest, thousands of them were shipped across the Atlantic. More than half died on the way. Sometimes when rations ran low they were killed for food. Sometimes the ships sank in hurricanes, taking the horses to a howling and watery grave, along with slaves who had been kidnapped from Africa and chained to each other in the ships' galleys. Often the ships became becalmed mid-ways; between 30 to 35 degrees north and south of the equator, the barometric pressure would increase and the hot dry breezes called the westerlies would stop blowing. The procession of proud, defiant galleons would come to a halt, mired in the tropics for endless days, their massive sails limp in the blistering sun, and the cargo—man and animal alike—slowly going mad.

It was time to lighten the load. The horses were removed from their slings and taken abovedecks. At long last they saw light and could move freely, although were still hobbled by their weak legs, and they probably faltered as the conquistadors urged them to the gangplank. Perhaps as they faltered they took in the sweep of the peripheries with their big satellite eyes and then gazed across the seas where an albatross was passing, following it all the way to the equator and beyond, and as their eyes swept the horizon they may have experienced a vestigial sense memory of the wide-open space in the New World where they once roamed before it had a name. Perhaps they felt that strange tingling of hot, dry no-wind that raises the hack on all living creatures and makes the neurons crackle and the ganglia dance as sea monsters and dolphin pods and vast armies of seaweed growing from canyons whose rims were the ocean floor encircled the brigantines and waited. Perhaps, as they drank in the air—for the last time—they never felt more alive. And then they were spooked down the plank by thirsty, desperate men who cursed loudly and waved things to scare them, and they skidded down the gangway shrieking in fear, thrown to the seas so the armada could catch the wind.

And as the sea was swallowing them, the ships would rise in the water, lighter now, and the sails would again furl with the crackling air and the procession would leave the region that sailors came to call the "horse latitudes." Of course, not all the horses were jettisoned on those terrible crossings and perhaps the ones that were passed over when the men went belowdecks to make their grisly selection sensed—in the way that all animals have a homing instinct and generation after generation make their way back to their ancestral turf—that they would soon be home, back on the continent that spawned them, thirteen-thousand years after they dispersed and mysteriously disappeared from their birthplace. In fact, it must have been more than a sensation or a feeling, it was a kind of certainty that ran through their bones, down through their legs and into the ground they would soon churn up as they headed for the range, yes, they had to know, for how else to explain the ease and speed with which they adapted to the American desert?

Sixteen horses came with Hernando Cortes and the record tells us that they perished during the early years of the conquest. And so too the 350 that followed later with Hernando de Soto. But there's a legend that says otherwise. It says that a foal was born en route to Mexico from Spain and that she survived, escaping at some unknown time, running towards her prehistoric ancestors on the North American continent, over mountains and across valleys and canyons and rivers, through cloudbursts and duststorms and days of no water, left to carry on by jaguars and wolves and snakes, perhaps aided by animal spirits, particularly chattering birds that urged the foal onward as she grew older, eventually finding her own kind—six horses that are said to have escaped the de Soto campaign and moved westward. This small band, too, had traveled great distances, across wetlands and then into

the parched flats just beyond the Rio Grande, like the foal, getting a reprieve from predators, or perhaps not appealing to them for reasons that we do not know, drawing ever closer to the American West, possibly sensing in their bones and marrow that one of their own was waiting for them, needed their kinship, and it was in the Sonoran Desert possibly, or the Mojave, that one day the six happened upon the one, drinking at a depression in a canyon rock, or grazing on some rabbitbrush, and then they exchanged some information and headed for freedom, El Norte, their home.

Part II: Hoofbeats on the Prairie

Wild horses at Misfits Flat, Nevada, so named for the movie *The Misfits* filmed there.
Photo by Willis Lamm.

Shortly after their return to the New World, horses began moving into the deserts and plains like a fast-moving secret. They partnered up quickly with Native Americans, players taking to the script with astonishing ease. From the Apache and Comanche to the Zuni to the Hopi to the Navajo to the Ute to the Shoshone, the Flathead, Crow and Nez Perce, from the Arapaho to the Ponca, the Cheyenne, the Sioux to the Mandan, the Ojibway and beyond, they allied with tribe after tribe—perhaps not in that exact order—but the deed was done and by the early 1700s, it was as if their kind had never disappeared from their native turf.

Among the many tribes that acquired the mustang, it was the Plains Indians who became the centaurs of the American frontier. They called the horse *sunkan wakan*—sacred or mysterious dog. "Dog" because it became the new pack animal, replacing the smaller, coyote-wolf cross breed that had served the Indian for thousands of years. And "sacred" because it was much more than a carrier of goods; it was a hunter, a warrior, wealth and prestige; it was medicine, it was magic, and above all, it was allied with the Thunder Beings who lived in the west, where rain begins.

A few years before the Battle of the Little Bighorn, the horse came to a young Lakota boy named Black Elk in a vision. He later recounted his vision to the poet John Neihardt, who wrote it down and preserved it for the ages. As Black Elk lay in bed with a fever, he told the white man, two men with flaming spears commanded him to follow them into a cloud. The cloud took them away to a white plain with snowy hills and mountains in the distance. Black Elk could hear whispers in the stillness and then the men said, "Behold him, the being with four legs!" Black Elk looked and there was a bay horse. It said, "Behold me! My life history you shall know!"

The bay horse wheeled to where the sun goes down and said, "Behold them! Their history you shall know!" Now there were twelve black horses standing abreast, with necklaces of buffalo hooves, manes of lightning, and nostrils that breathed thunder. Then the bay horse wheeled to the north and

said, "Behold!" and there were twelve white horses abreast. Their manes were flowing like a winter wind and their nostrils roared, and white geese circled all around and above them. Then the bay wheeled to the east where the sun always shines, and there were twelve sorrel horses abreast, with necklaces of elk's teeth and eyes that glimmered like the daybreak star and manes of morning light. And then the bay wheeled to the south and there were twelve buckskins abreast, with horns on their heads and manes that lived and grew like trees and grasses.

When Black Elk had seen all the horses, the bay told him not to fear, the horses were going to take him to meet the Grandfathers, and then they went into formation by color, standing behind the bay. The bay whinnied in each of the four directions. In the western sky there was a storm of plunging horses of all colors, shaking the world with thunder and neighing back. In the north, there was a mighty wind of horses of all colors, all neighing in response. In the east, the sky filled with glowing clouds of manes and tails on horses of all colors, calling back. And when the bay called to the south, there were many happy horses of all colors, nickering across the sky.

"See how your horses all come dancing!" the bay said, and then, "Hurry!" Black Elk walked side by side with the bay, followed by the other horses, marching in teams of four and by color and then suddenly changing into all the animals and birds of the world and vanishing back into the four directions of their origin.

Lakota shaman Black Elk in the Black Hills of South Dakota, circa 1939.
Photo by W. Ben Hunt.

Then there came a cloud that turned into a teepee and Black Elk walked through its rainbow door, facing six men older than the hills and the stars. He was flanked by the two men with the flaming spears, and the horses from each of their quarters reappeared and now looked in. The elders told Black Elk not to fear and the horses neighed encouragement and then Black Elk realized that the elders were not men at all but the Powers of the World. When the sixth Grandfather—the Spirit of the Earth—had spoken, the council concluded and Black Elk followed the old man out of the teepee through the rainbow door and then he was on the bay horse. The bay paused before the horses of the west, east, south, and north, neighing to each as before, and the horses neighed once again in response, falling in line behind Black Elk by color, now with riders.

As the procession marched, it was followed by his people at different points in time until the marching animals grew restless and a Voice said, "Behold your nation, and remember what your six Grandfathers gave you, for thenceforth your people walk in difficulties." When Black Elk looked, he saw black clouds gathering and women weeping and in the west there was a horse that was all skin and bones. He passed an herb over the horse and it neighed and got up, now a big, shiny black stallion, the chief of all horses.

When he snorted it was a flash of lightning and his eyes were like the sunset star. He dashed to the four directions and neighed and the whites and sorrels and buckskins answered his call, rejoicing in their fleetness and strength. Then the universe was silent and the great black stallion sang a song:

My horses, prancing they are coming.
My horses, neighing they are coming;
Prancing they are coming.
All over the universe they come.
They will dance; may you behold them.
A horse nation, they will dance.
May you behold them.

The stallion's voice was not loud, but filled the universe. It was so beautiful that nothing anywhere could keep from dancing. The leaves on the trees, the grasses on the hills and in the valleys, the water in the creeks and in the rivers and the lakes, the four-legged and the two-legged and the wings of the air—all danced together to the music of the stallion's song.

When Black Elk returned to his bed, the fever was gone. Later, when he awoke, he danced the vision for his tribe in a grand re-enactment of the knowledge he had received, calling on horses and riders to assemble in the formation he had witnessed during his fever dream. As the Horse Nation had danced in the spirit world, so too did it dance on Earth, and about ten years later, it would dance yet again, on the greasy grass, where all visions—white and red—were converging. "The frontier is closed," proclaimed historian Frederick Jackson Turner after the buffalo and Native Americans were gone and the army had seized or killed thousands of Indian ponies. But many endured and were roaming the West and a new war was soon underway. It is a war without end and in modern times plays out most fiercely in the high deserts of Nevada, where the mustang has gone, like many misfits, to hide.

Part III: The Luckiest Horse in Reno

December, 1998

When the men approached, the black foal might have been nursing. Or she might have been on her side, giving her wobbly legs a rest, leaning into her mother under the starry desert sky. The band of wild horses had only recently returned to this patch of scrub; the land had been stripped bare of forage by hordes of roaming cattle and it was only in the past year that some edible plants—their seeds dropped here by migratory birds who knows when—began to green up the hills and provide nourishment for the critters which brought us all westward ho. At the sound of the vehicle, the band—all 35 horses—prepared to move and did move at once, for horses are animals of prey and so their withers twitched, their ears stiffened, their perfect, unshod hooves dug into the scrub for traction and then they began to run. The black foal might have taken a second or two longer than the others to rise. Perhaps the mare, already upright, bolted instantly, turning her head to see if the foal had followed. The headlights of the vehicle appeared atop a rise. The men were shouting and then

there was another bright light—it trained from the vehicle across the sunken bajada and it swept the sands, illuminating the wild and running four-legged spirits as their legs stretched in full perfect extension, flashing across their hides which were dun and paint and bay, making a living mural in 3-D in which the American story—all of it—was frozen here forever, in the desert as it always is, as bullets hissed from atop the vehicle through the patches of juniper and into the wild horses of the old frontier. It was Christmas. Two-thousand years earlier, Christ had been born in a stable.

Rescued wild horses Bugz and Spirit at Wild Horse Spirit in Carson City, Nevada.
Photo by Betty Lee Kelly.

Two months later on a cold and sunny afternoon, a woman was hiking in the mountains outside of Reno. She saw a dark foal lying down in the sagebrush, not able to get up. A bachelor stallion had been watching from a distance and now came over and nibbled at the foal's neck. She tried to get up but couldn't and the stallion rejoined his little band. The hiker called for help. A vet arrived and could find no injuries. As it grew dark, a trailer was pulled across the washes and gulleys until it approached the filly, about a hundred yards away and down hill.

The stars were particularly bright that night and helped the rescue party, equipped only with flashlights, lumber across the sands and up the rocky rise where the filly was down. Four men lifted her onto a platform and carried her down the hill and into the trailer. "She was a carcass with a winter coat," said a rescuer. She was covered with ticks and parasites, weak and anemic. She was six months old. Two days later, at a sanctuary near Carson City called Wild Horse Spirit, two women helped her stand. But she kept falling. Over the weeks, they nourished her and she grew strong and regained muscle and she began to walk without falling down. But she was nervous, not skittish like a lot of horses are, especially wild ones, but distracted, preoccupied, perhaps even haunted.

Because of her location when rescued, which was near Rattlesnake Mountain, and because she was starving, her rescuers reasoned that she had been a nursing foal who had recently lost her mother. Without mother's milk, a foal can last for a while in the wilderness, sometimes as long as a couple of months. And because a band of bachelor stallions had been nearby when she was found, her rescuers figured that they had taken her in, looking after her until they could no more, standing guard as she lay down in the brush to die. "Something made me stop," the hiker who found the filly would later say. As it turned out, the filly was the lone survivor of the Christmas massacre and they called her Bugz.

At about 1 p.m. on December 27, the phone rang at Wild Horse Spirit in Carson City. Washoe County Animal Control officer DeDe Monroe was calling Betty Lee Kelly (no relation to the hiker) and Bobbi Royle at their sanctuary for injured and abused mustangs. The sanctuary is about halfway between Reno and Carson, past the fast food joints with the keno machines, past the various strip malls, in the rural zone on the eastern side of the Sierra Nevadas where civilization trails off into high desert.

In 1986, while living in a subdivision outside Reno called Hidden Valley, the two women had their first contact with wild horses when the animals would come down from the Virginia Range and wander the yards of residents, occasionally even foaling in a carefully landscaped garden, to the delight of some who were thrilled at their sight and the dismay of others, who did not want the animals trampling their flowers or dropping manure on their lawns. Sometimes the horses would even range across local streets and highways. Inevitably accidents occurred and cars were damaged and people were injured and horses died.

It was during those years that Bobbi and Betty, now in their sixties, began to take care of the mustangs who ranged into suburbia looking for food and water, and as they were beginning to learn the ways of wild horses, they also noticed that the local wild horse population was being picked off by people with guns. Of course they had heard about such things for a long time—you can't live in Nevada and not hear the stories. Perhaps you're in a bar in Elko and someone makes a reference to some mustangs he had just run down or maybe you're on one of the university campuses and a biologist just in from the range reports that he saw a couple of wild horse carcasses with their ears cut off or maybe you're a teenager at a local school and you hear some kids talking about going out into the desert to waste critters.

Inmates on mustangs at the Warm Springs Correctional Center in Carson City, Nevada.
Photo by Cindy Lawrence.

It's not news and yet to those who aren't content with such things, it's disturbing, and so one day, while driving on a dirt road outside Hidden Valley, the one that takes you right past wagon wheel tracks said to have been made by the Donner Party, Bobbi spotted a boy on a bike with a rifle across the handle bars and she stopped and asked him what he was doing. "Going out to shoot," he said. "You're not planning to shoot wild horses, are you?" she asked. He shrugged and said, "I'm goin' out to shoot," and then pedaled away. Bobbi floored her truck and sent a swath of dirt across the boy's path. From her rear view mirror, she watched as the boy with the rifle across his handle bars continued up into the hills where the mustangs made their home.

"We have a report that there's a wounded horse in Rattlesnake Canyon," animal control said when

Betty picked up the phone two days after Christmas years later. "At least two others are dead. Can you come?" Betty ran out to tell Bobbi, who was in the corral with Art Majeski, then 74, an ex-Marine who had fought on Guam in World War II, later worked as a ranch hand around Nevada, had seen how some cattlemen treated mustangs on the range and didn't like it. Like the two women, he had the healthy and weathered look of those whose passions cause them to spend a lot of time outside. He had never married and when he retired, he devoted his life to taking care of wild horses. Now, Bobbi and Art immediately grabbed lead ropes and halters while Betty ran to their big Dodge pickup with her camera and video camcorder. Art remained at the sanctuary with the 22 resident mustangs and the women drove quickly from Washoe Valley across the icy roads towards Reno. With Betty at the wheel, Bobbi called their vet on the cell, hoping that she could meet them at the scene. As it turned out, the vet was on a call, treating another horse, and it was agreed that once the wounded horse's condition was assessed, Bobbi and Betty would call her again.

Once at Mira Loma Park in Reno, the women met up with two vehicles—Washoe County Animal Control and Washoe County Sheriff's Department —and followed them to the south end of Hidden Valley, their old neighborhood, a development that prided itself on holiday decorations, now festooned with elaborate Christmas displays, competing with other neighborhoods in its celebration of the Yuletide season, and so well-known for its exuberance at this time of year that there's often so much traffic that you can't get out of your driveway. "When we lived there," Bobbi told me when during one of my visits, "we had a neighbor who had accidentally killed a friend in a hunting accident. He felt so guilty that he put up huge displays in honor of his friend at Christmas time. The displays got bigger every year, with Santa, the manger, the three wise men, everything. One year, I heard he had a $7,000 electric bill." With the neighborhood lights twinkling behind them, the caravan stopped to pick up Craig Kelly, the hiker who had discovered the horses.

He led the way to the scene, heading south up Mira Loma Road where a few years earlier Bobbi had confronted the boy on his bike, away from the holiday cheer, past the Sage Hill Gun Club, the road fading at this point from the relatively smooth and well-travelled gravelly dirt into an old and rugged path, then turning left onto another desert road and heading east past a power station. Because of recent snows, the road was slippery and washed out. The two Washoe County vehicles had now fallen behind but Bobbi and Betty continued to follow Kelly, onto the upper power line road, deeper into the piñon and juniper mountain terrain, past a dry lake bed way down below on the right.

Having witnessed far too many crimes against wild horses, Bobbi and Betty didn't hold out much hope that saving the mustangs was possible, although they were always trying—lobbying local politicians, passing out leaflets, compiling mountains of research, writing impassioned letters to the editor whenever there was an article that portrayed a wild horse round-up as colorful and exciting, sometimes, with their uncompromised views, offending wild horse advocates who chose a more mild-mannered route. Now, as they headed into the range, they were once again about to come face-to-face with the dark heart of the thing they had been fighting for years—a crime so horrific that hundreds of thousands of people all over the world were about to pose the big question. Exactly what is going on in Nevada? What is America doing to its wild horses?

Fortunately, Betty had brought her video camera. Bobbi's cell phone was ringing but the

connections kept cutting out. In a few minutes, Kelly stopped at two large electrical towers. Bobbi and Betty got out and Bobbi followed him to the wounded and thrashing horse he had seen earlier—not a colt but a filly as it turned out—and Betty began to videotape the scene, now spotting a dead stallion. The filly was light bay, lying on the left side of the dirt road if you were heading to the nearby small town of Lockwood. Her head was facing the west, towards the land of the Thunder Beings. "Her back legs were totally paralyzed from what appeared to be wounds to the lower back area," Betty, a pediatrician, later told me. "There were dried body fluids on her body. She was able to use her head, neck, and front legs normally but not her back legs at all. There was a large pile of manure at her tail. She had dug a hole with her front legs repeatedly trying to get up, but couldn't. I estimated that she had been there for a day or so, unable to move. She was about six or seven months old."

An ill-fated roundup at Nevada's Sheldon National Wildlife Refuge in 2006.
Photo by Flora Steffan.

While waiting for officials to arrive, Betty continued to tape the scene, coming across two more dead horses under a juniper tree—a nursing, brown mare, and her bay filly, also about 6 or 7 months old. Both horses would soon be referred to in the record as #9 and #10. "The filly had a clean bullet hole in the shoulder area," Betty said later. "I saw dried body fluids from the wound down the outside of her front left leg almost to the hoof." About five minutes later, Washoe County Sheriff's Deputy Daryl Spratley arrived, along with two animal control officers. Spratley was one of those local people who liked seeing wild horses on the outskirts of town, especially early in the morning, on his way to work, when he could look up into the foothills and see them grazing, or perhaps just moving on down the road.

There was nothing to be done for the wounded filly. Knowing that it's difficult to kill a horse, even with a shot to the head in what passes for the right spot, Betty and Bobbi considered picking her up and taking her to the vet's to be euthanized with an injection. With her back legs paralyzed and her small size, the group could have carried her to their truck. But the consensus was that such a move would not be practical. "Would a handgun be appropriate?" Spratley asked. Betty said yes. He radio'd for permission, then shot the filly in the head. The shot was a bit low, Betty told Spratley after noticing a slight tremor, and he shot her again. She stirred no more. A day or two later, she came to be known in the record as #8. Betty and Bobbi named her Hope.

From that point on, things only got worse. On the right side of the road, once again heading toward Lockwood, Betty spotted another dead horse, a stallion, lying on his left side, with what she described as an obvious exit wound from his right chest area and another wound on the right side of his neck. "There's another horse over here," Craig Kelly said, pointing to the left of the dirt road,

just off a jeep trail. Bobbi got there first in the truck. "Jesus," Bobbi said, and then Betty arrived and started taping. There was a dark bay colt, about 4 to 6 months old, lying on its right side, facing south toward Hidden Valley. He had been sprayed around the mouth, nostrils, genitals, and rectum with a strange white substance. But there was an additional mutilation—a crude white circle had been painted across and around his left eye, as if someone could not take his gaze. The act recalled the anguished and soulful eye of Moby Dick, and how it had beckoned Ahab, and how it remained open as he went down with the tormented captain and his harpoons. And it spoke of *Equus*, the British play about a boy who blinded six horses with a spike. The play was based on a series of actual late 20th century incidents in the English countryside. "Is it possible," a character asked, "for a horse at a certain moment to add its sufferings together, and turn them into grief?"

After Betty recorded the sight, she spotted something on the main dirt road. It was a fire extinguisher's tag, and it was later determined that the colt had been mutilated with flame retardant. Betty videotaped the tag and handed it to Spratley. By then the sun was sinking and the temperature had dropped to 28 degrees. Throughout the day, a stallion had been standing at the edge of the kill zone, watching Betty, Bobbi, and the investigators as they found each dead horse. Now as everyone headed to their vehicles and the last rays of the sun vanished, the stallion trotted on down the road.

"His family had been wiped out," Betty recalled later, "but we still didn't know how bad it was." Bobbi and Betty headed in the opposite direction from the way they had entered the range—in the dark, and with the winter conditions, it was a bit easier, though even with headlights, the drive down the steep and winding road was treacherous. "We crept down one muddy portion inch by inch," Betty recounted. On the way down from the mountains, they were stopped by Officer Spratley. He told them that two more dead horses had been found.

The next day additional investigators began to arrive at the scene. As they walked through Lagomarsino Canyon and across the adjacent area known as Devil's Flat, they discovered more dead horses. They too had been shot and there were spent casings everywhere. Many of the horses had been shot in the gut, which meant that they had died slowly and in great pain, wandering here and there for a day or two until they collapsed and died. On the third day of the investigation, the number of dead horses had grown from 6 to 25. Piles of bullet casings were found within shooting distance of many of the horses—it was as if someone or some people had been playing "horse golf," a prosecutor later theorized, or that perhaps the three men who had been charged had actually made several trips to the canyon, given the time frame, beginning a day or two before Christmas, or on Christmas Eve, or Christmas itself, or that unknown others had been in the canyon during the holidays, waging their own shooting spree.

In the annals of modern American history, 1998 had been a particularly violent year. In May, Kip Kinkel whacked his parents, then shot up his Oregon high school, killing two students and wounding 25, kicking off an ongoing wave of school shootings. In October, Matthew Shepard was found stabbed to death and tied to a fence in Wyoming, like an unwanted coyote. Now, on December 30 at 6 p.m., Betty Kelly's video was broadcast on the CBS evening news. The terrible story from Nevada went out to the world, burying the year in a hail of gunfire and the wails and moans of frightened and dying horses.

I met Bugz in 1999 when she was about eight months old and have visited her many times. During a recent visit, she was on her way to the hospital for surgery on her right front leg, which she had been having trouble with since her arrival at Wild Horse Spirit, due to lack of nourishment as a foal. Now she had a check, or crooked, ligament, which needed to be repaired lest she develop further and perhaps life-threatening problems.

Author Deanne Stillman with Bugz, the mustang that survived the 1998 massacre outside Reno, Nevada. Photo by Betty Lee Kelly.

While doctors operated on Bugz, Betty and Bobbi paced the waiting room for hours, and even after word came that the operation was over and Bugz was coming out of anesthesia, they continued to pace. The hours after surgery are touch-and-go for a horse—if they fall while getting up after an operation, they could re-injure a leg or hurt another one and then they might have to be destroyed. But late in the day, Bugz shook off the narcotic and stood up just fine.

A few days later, she went home to Carson City. As soon as she came out of the trailer, she was greeted by her buddy Mona, a sweet little brown mustang with a BLM freeze brand who had been abandoned by previous owners and picked up by animal control somewhere in the desert. Mona trotted to the rail of a corral and called out a welcoming sound. Bugz whinnied back and then went to her stall for dinner.

She'll spend the rest of her years with 27 other wild horses who live at the three-acre sanctuary. Some of the horses have been there for years, such as Sparky, who was captured by Reno Animal Control after they harried him across busy McCarran Boulevard in Reno when he wandered in off the range; others are recent arrivals, such as Cinnamon, who had been culled from the wilderness by the Bureau of Land Management and was headed for auction and then either adoption, slaughter, or life in a government sanctuary in Oklahoma, but the BLM hands couldn't get her into the loading truck, "even with electric prods," Bobbi told me.

Bobbi and Betty live in a house adjacent to the corrals and stalls, along with several rescued dogs and cats. Their house is big and comfortable but can barely accommodate all the horse stuff—art, books, files, and so on—that the women have acquired over the years. From early in the morning until late in the evening, Bobbi takes care of the horses along with 24-year-old Mandy McNitt, a neighbor who found refuge from her strict family at Wild Horse Spirit. Art Majeski doesn't come by much any more, although he did recently hire a pilot to fly over the Virginia Range to see how many horses were there. He counted 68, a number that is far below the state's estimated 500, and if accurate, would make their days numbered.

At Wild Horse Spirit, Bobbi and Mandy carry on, feeding and watering the horses twice a day, and spending the rest of their time mucking out stalls, grooming them, checking them for ailments, taking them to the vet, making repairs around the stalls and corrals, and finding additional time to hold garage sales so they can raise money for feed and equipment. When their work outside is finished, they sit down with Betty and watch the horses on monitors from the living room, because some of them are recovering from injuries or wounds. Late at night, Betty is often online, informing a circuit of people of the latest news in the ongoing battle to save wild horses, and Bobbi is organizing the next day's work. "Can I call you back?" Bobbi said one recent evening when someone called to chat. "I got two colicky horses I'm trying to get into a trailer."

A few days later, Betty and I drove out to Lagomarsino Canyon to pay respects, see how it had changed since the massacre, how it felt, seven years later. It was spring time and here and there, the stands of sage were puffy with rain and fragrant. A visitor to the site can know part of the story, just as a visitor to Gettysburg or the Little Big Horn battlefield can bear witness but not fully. But here there are no texts to guide us; no oral histories passed down across time; just skulls and the cages of ribs and shins and intact hooves and manes and tails right where the wild horses were felled, forever preserved in the dry air of the Great Basin which birthed Nevada—mosh pit of America—godforsaken treasure chest of a state which lures big and small spenders alike with five-cent slots and high-roller events and hollow spectacles and all-night pawn and—yes!—"wild horses, just like in the Old West!" says the travel literature: "See them roam free just like they oughtta be!"

Wild horses in Nevada.
Photo courtesy Nevada Department of Conservation and Natural Resources.

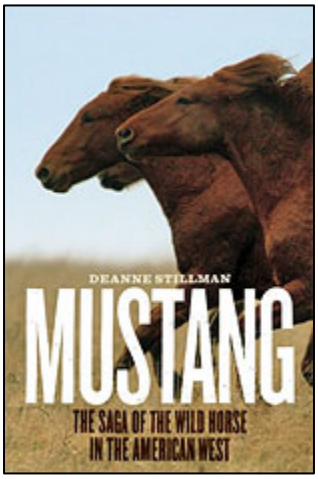
"This is horse #1," Betty said as we walked the site, the one who had prompted the first call from animal control. She and Bobbi named her Hope. "She had probably been here for a day or two." As she continued, it was like a prayer, and I knew it well. Silently, I recited it with her. "She was lying in the sand. She had dug a small hole with her front legs, intermittently trying to get up." After awhile, we came across the horse known in the Nevada court system as #4. Like the others, Bobby and Betty had given him a name. He was Alvin—the one with the mutilated eye. "There was a stallion watching us that day," Betty said, "just standing at the perimeter as we found each dead horse. When the sun went down and we got in our cars, he trotted on down the road. His family had been wiped out but we still didn't know how bad it was."

As I wandered through the cemetery, I saw that someone or something, maybe a coyote or perhaps the weather, had moved a few of the large stones in the cross under a juniper tree that Betty had made on the one-year anniversary. To calm myself, I decided the stones must have been disturbed by a natural force—a person who wanted to make a statement would have wrecked the shrine. But

then I noticed something new: an empty box of Winchester cartridges, lodged between the branches of a nearby tree. Winchester—the gun that won the West, the ammo that brought it to its knees—now back as a reminder, placed intentionally and possibly by the people who killed the horses.

"I think it's time to go," I said. As we walked back to the pickup, a few horses walked down from a rise. Since the massacre, Betty said that she had not seen any in the canyon, and she had visited it several times a year, as a kind of a groundskeeper for the kill site. On my few visits, I had not seen any horses either, nor had I seen hoofprints, which made me think that horses had been avoiding the area because in the desert, things last for a very long time. The horses that approached were brown with black manes—the scruffy and beautiful Nevada horses that nobody asks for at adoption centers, preferring palominos and paints. We stopped in our tracks and watched them and they watched us back. After awhile, we bid them farewell. As we headed down the mountain, I turned for one more look. They were walking across the boneyard towards the stone cross, reclaiming their home.

A few hours later, at the Southwest Airline lounge in the Reno airport, I overheard one of those conversations that explained a lot of things, a refrain really, the chorus of a song that we all know. It had to do with the civic religion of the country, our gleeful worship of personal rights. Someone was talking loudly, in the way that only certain big people do in case you should happen to miss them, a big man with a big gut, well over six feet, in a cowboy hat and cowboy boots, on his cell phone. "Oh man," he says, "I can't believe this. They confiscated my ammo, I had a clip inside the steel toe of my belt and they actually made me leave it at the security gate." He's two seats over and in a cell phone trance, the Second Amendment with a boarding pass. "I told them I was working security at one of the casinos but they made me leave it anyway," he says. "Can you believe that? But hey I applied for a concealed carry and I should have it next week. Hey, did you hear Al is in trouble? Yeah, lawyers have been called and a grand jury is in session. Looks like indictments are coming…Hey, I almost had me some last night. It was just there waiting for me. It'll be there when I get back. You know, I like Reno. I like this whole friggin' state."



This excerpt is from Deanne Stillman's book *Mustang: The Saga of the Wild Horse in the American West* (Houghton Mifflin, 2008), which has received acclaim in the *Atlantic Monthly, Los Angeles Times Book Review, Economist, Tucson Weekly, Billings Gazette, Seattle Times*, and elsewhere. It has also been listed as a "Best Book 2008" by the *Los Angeles Times*. It is reprinted with permission.

Deanne Stillman is a widely published, critically acclaimed writer. She writes for *Rolling Stone, Slate*, the *Los Angeles Times*, and elsewhere, and her books include the cult classic *Twentynine Palms: A True Story of Murder, Marines, and the Mojave*, recently published in a new, updated edition (Angel City Press), with a foreword by T. Jefferson Parker and preface by Charles Bowden, and *Joshua Tree: Desolation Tango* (University of Arizona Press).

Fiction

Title photo (left) — immigrants at a mine in Butte, Montana, undated — courtesy *Distinctly Montana*.

Icon map image, Butte city map from 1917, courtesy Perry-Castañeda Library Map Collection, University of Texas at Austin.

by Patrick Burns

1. Mutualism

Butter and Lightning
Finn Malone 1958

I am in the closet with my grandmother. I call her Gram. My mother and her brothers call her Ma. With no light in the closet we are alone among the coats. She was cooking when the thunder started—rubbing the skin of an eight-pound turkey—so her hands are slick with butter. She's afraid of the lightning and spends most storms in the closet since, as a child in Ireland, she saw her brother struck down and killed. I know this from my mother because Gram never speaks of it.

The closet smells like leather, like the inside of a boot, and Gram and I are holding hands as if we are siblings, as if I'd been born in Ireland and not in some American town. And while I've seen death—my father's—I've never seen someone die, or seen the smoke come off someone's skin. Because of this I am calm, or at thirteen I pretend to be.

In the darkness we do not speak. She cannot put words to her terror, but I stay with her and squeeze her hands when the whole house shakes from the storm. The butter melts on our fingers and the smell turns my stomach. For some reason, butter makes me think of sickness whenever it's away from the kitchen.

We are in the closet for fifteen minutes or so before Mickey, my grandfather, comes home. He knocks hard on the closet door and she doesn't like the sound. I want to take him by the throat, but he's a miner and much too strong, his neck twice as thick as my hand. "Kate," he says, "you're safe in the Goddamned house."

He complains about his dinner, about the turkey uncooked by the stove, and when my pulse begins to race, Gram tries in her way to calm me. She pulls me toward her and my head nearly touches her

chest. Our feet are not moving, but for a moment it's like we are dancing. She smells like sweat and onions and against my will, I imagine what it would be like to kiss her—not as an old woman, but as a young girl back in Ireland.

The moment lingers and despite her age, despite the blood we share, I yield to the fantasy because in the dark I cannot see her. For a moment she's just a woman whose fingers are covered in butter, a woman who, in my mind, is the girl of Mickey's stories. The girl who, when her father had gone to town, would steal away to the shore and jump naked in the sea. How cold the water, how blue her Irish lips. That girl, the reckless one who shot milk on her brothers from udders. The lean and freckled one, the one with a bird in her heart. I imagine her and lean forward for a moment, as if I am not myself.

And then I start to hum. It's one of two Irish songs I know, a song Gram herself has taught me. I am trying to soothe her. I am humming to remind myself that we are kin and not some strangers, but no matter how hard I try the sound still comes out red. The song that she taught me is not some lullaby. And still I hum. I hum and she is tense, but as the song progresses she begins to soften and the awful smell of the butter gives way to traces of lilac. Perhaps it had always been there, a perfume she dabbed on her neck, but now the trace grows stronger. Our hands grow warmer and there is nothing inside the closet but the strange possibility that our lips will somehow meet.

And then a thunder clap.

She trembles again and the lilac is dashed away. The butter smell returns along with the sweat and onions. I step back from her, stumbling on my grandfather's boot, and still she is quiet, lost again in the memory of her brother. At least I hope this is the case.

The storm lasts for five more minutes and then it is safe to come out. Mickey has left the house and Gram returns to her turkey. I say that I must be going, and she doesn't beg me to stay. "Off you go," she says and kisses me on the cheek. It leaves a mark, as it always does, but she is back to her turkey before I can wipe it off. She is squat and heavy. Her hair is wrapped in a bun. There's a mole on the back of her neck, a spot which I'd forgotten in the small unnatural moment. I shake my head when I know she can't see me, as if doing such a thing would somehow erase what I'd wanted.

I have washed my hands, but there is still butter at my nails. As I leave the kitchen, I think I can hear her singing. It's not the same song from the closet, and for a moment, I'm disappointed.

2. Commensalism

Vikings
Mickey Berrigan 1917

Regardless of the weather, if it was summer in Butte and the workday had ended, then Sean Flurry took off his shirt and made a tail with it in his pants. Mickey never asked him why and for all the years he'd known him, Mickey just assumed that Sean liked the wind on his skin. The wind or the sunshine, an occasional rain. Hardly any miners did this—walked in the streets with their white chests on display—but Sean didn't give a damn and for that sake neither did Mickey.

One day, after ten long hours of shoveling, Mickey peeled off his shirt as well, as if he'd done it a thousand times. He and Sean, two miners with nipples as red as apples, strolled home along the dirt roads of Centerville. One's shoulder as high as the other's. Sweat running down their arms. When Rose asked him later why he had done it—for the first time since he'd been mining—Mickey said that a man didn't need a reason to take off his shirt outside. Hell, a man could, if he so desired, walk down the street in his skivvies—not that he should want to, but he could. That's what he told her, but in the last weeks of his life, at a time when his sight had blurred and all thoughts were turned to the past, well, Mickey still didn't know why he took off his shirt. He suspected, though he left it alone, that he owed his muddied intention to that rascal Sean Flurry and the shine Mickey saw on Sean's muscles.

They were both strong men, but Sean was lean while Mickey was bull-thick and lumpy, a wedge of fat hanging from his neck. Sean swung a pick and broke up the rock while Mickey shoveled the rubble. They worked side by side, in the candlelight of the mineshaft, each wrangling the same bit of ore, but Sean looked more like a boxer with his sinewy arms and long, smooth muscles. Mickey, the pudge, was doughy around the middle, and his breasts sagged like an old woman's.

None of this mattered in the muck of the mines, but above ground, where mothers were boiling cabbage and the children ran in packs, the rules were different. Spitters stood out like vagrants and foul-mouths, though there were many, and received the same scorn as drunks."Well?" asked Sean. "How's it feel then?"

"Not bad," said Mickey, slapping his chest. "A fella could get used to this." He rubbed his belly and spat.

"I say," said Sean, "Let 'em see who digs out their hill. There's pride in that, ain't there?"

Mickey nodded. "We earned it."

"Hell, we earned more than pride."

"It's a start," said Mickey. "Someday we'll get the rest, our own share of the hill."

"Like hell," said Sean. "We'd have to take it." He passed his forearm across his nose, leaving a small wet trail on his skin. "And I can't say I'm against it."

"Yeah," said Mickey, "We'll take it!" And for the first time in years, blood raced through his arms and into the tips of his fingers. A rush of excitement tightened his muscles, and the mischief reared up inside like a horse set free of its saddle.

As the two men spoke, their lunch pails slung over their shoulders, they hunched and growled and took on rough expressions until both men had forgotten themselves. The hair prickled on Mickey's forearms and the small bell of his prostate bobbed as it had years before when he lived just to tear through the world.

"We'll take it like the Vikings!" said Sean. "Rob and burn and all that."

"Take what we want," said Mickey.

"Whatever we want. See a steak, you eat it. Want a pint? Then grab it. Don't ask for a Goddamned thing."

"And the women?"

"Take them as well," said Sean. "The first one you see. Hell, a man like you should take two."

"I'll take three," roared Mickey. "A red-head, a blonde," then he paused to bite his lip,"and one of those Spanish dancers."

"A gypsy?" asked Sean.

"A Spaniard. I seen one in Dublin once. She had skin like the Devil's daughter. I nearly went blind."

"Was she dark?"

"Not black, if that's what you mean. Golden brown."

"Well," said Sean, flexing his muscles at Mickey, "it's Spanish women and Irish whiskey."

"Spanish women!" screamed Mickey and he granted every thought he'd had for the girl.

He knew the Good Lord was watching, but she danced in his mind without clothes. While the two men raised their voices, one of the neighborhood children—a girl named Oona Brannan who had no friends her own age—ran inside to get her mother, who had hands like a journeyman sailor. They were rope-calloused and wiry, and she walked down the streets of Butte like she'd just been slapped in the face. Mickey knew this and, like most men in the mines,
always let her be.

"What's all this hollering out here?" she asked them.

"Get back in your house," yelled Sean. He pointed his black-nailed finger behind her and filled his lungs with air. "We're minding our own business."

"Sean Flurry," she said, "if you don't put that shirt back on and get the hell home, I'll give you a fat lip that'll keep 'til Christmas.

"And you," she said to Mickey, "cover your tits, man. You're confusing my daughter."

Sean kept to his posture, but Mickey, whose mood the woman had crumbled like a brittle clump of ore, slipped out of character and quickly put on his shirt.

In truth, Mickey could have finished the woman off, put his hand around her throat and crushed the bones of her neck. He could have cracked her skull with his fist or knocked all the teeth from her mouth. He could have squeezed the life right out of her, right there in front of her daughter, but that wouldn't have made him a Viking. He would always be a miner, whether he kept his shirt on or not, and the woman he saw in Dublin, the gold-skinned Spanish dancer who he imagined without her clothes, she was, in fact, a Gypsy. No more Spanish than him or Sean.

3. Parasitism

Death at the Back of the Bus
Mickey Berrigan 1948

When Mickey Berrigan died at the back of the uptown bus, his first thought (after the memory of his mother stirring broth) was not for his wife, Rose, nor for his grandchildren who, he was told, did impressions of his bow-legged walk. He was instead relieved—joyful even—as the stroke twisted his body because, though there was nothing great about dying on a bus, he had not died in the mines. Even after he retired and gave his shovel to Rose for her garden, he felt such a death inevitable, since God always spared good men (though the evidence was against it) and Mickey was a piss-ant at best. He figured there was always a chance he'd fall down some unmarked shaft or find himself lost in the darkness, having gone to help rescue some friends. He'd be a half-mile down with no one to wink at and choke on the same earth he shoveled. So death on a bus was no small bit of grace, but a miracle, the answering of a prayer Mickey whispered two times a day: "Lord, take me in the sunshine."

But he was not without regrets. As he squirmed and gasped in his seat he remembered that he'd told his daughter that their outhouse was haunted. He thought she knew he was joking, but for the years that followed she suffered from constipation that Rose could not cure with her tonics. A mean thing he had done, but not as bad as taking the Lord's name in vain while his boys were fighting the Germans. Mick Jr. was captured at the Battle of the Bulge, where Ed was shot through the leg. Mickey never forgave himself for his ill-timed slips of blasphemy, but when they all came home— shaken though alive— he swore he'd never curse again, at least not with Lord's name included. But he never thought once of Rose, not as he was dying. And he didn't long for one last pint.

He was flooded instead with colors, the colors he'd dug with his shovel in the damp earth of the mines. And what had always been onerous rock became, for a moment, a spiraling mosaic, a light-storm of blacks and browns. The dirt and the sludge were forgotten, and the glimmer from each piece of ore was recalled in a single flash. Recalled in a strange burst of sunshine.

Patrick Burns lives in Tucson, Arizona, with his bride-to-be and their small hooligan dogs. A native of Helena, Montana, Patrick spent his early years observing the winks and smirks of the Butte Irish. He owes his father's family a great debt of gratitude for all they shared—both knowingly and accidentally.

Fiction

by Ron Rindo

Kate had always hoped to marry a man unafraid of the ricochets of her consciousness, someone to whom she could reveal complicated feelings without fear of retributive anger or pouting. To her first husband, she had wanted to be able to say, for example, that sleeping with only one man in her life had, in retrospect, not been a wise decision. How to say such a thing without being hurtful? Slip it in during a conversation about regret? Let fly during an argument? There seemed no ideal time, so she carried the information inside, a seed buried deeply. It grew into resentment, blossomed in divorce.

What she'd learned, perhaps later than most, was that each relationship had its unique archeology, its own striations. There were layers, bones and fragments buried, small discoveries. How deep you went depended. The time to establish boundaries came before you were conscious of there being a choice, and you could not go back later and choose again. What you did with your bodies, how or if you shared your minds, all of it could seem mysteriously predetermined. In simplest terms, if a man did not hold your hand two months into your relationship, no matter how much you yearned for it, he would not voluntarily take your hand thereafter. Conversations worked the same way. If you did not *talk* meaningfully about sex by a certain point, then sooner or later, you simply could not. Once the stratifications were established, and you'd marked where you would and would not dig, and how far, there was no going any deeper.

With her second husband Aaron, Kate could discuss such things, and this, at first, had been his most beguiling feature. She told him once, shortly after they married, that she believed it had been a mistake to sleep with only two men in her life. He laughed and nodded, said he sometimes felt he'd also been mistaken in sleeping with only twenty-six women in his. To Aaron she could say that even though she was now, most of the time, extremely happy, if not actually content—contentment being, philosophically speaking, impossible in a country like the United States, led by millionaires and morons—she still felt restless and dissatisfied, as if some part of life might be passing her by.

Lately, oddly, she'd been missing small things about her first husband, the way he fumbled to tie a

tie properly, for example, and how he became flustered when ordering food at a drive-through window. She admired smoothness and savvy in a man, but also felt diminished by it.

She said this to Aaron one sunny, Saturday morning, the first of April, after they'd made love—just before the thing with Matthew had blown up her life—while their children, Josh and Freida, five and seven, ate organic cereal downstairs in front of the television. Kate rested with her head on Aaron's hairy chest, one leg thrown across his thighs. She could hear birds singing. She raised her head briefly, glanced out the window to watch two red-winged blackbirds and several sparrows eating at the new feeder. "What you're saying," he clarified, in his sometimes aggravatingly scholarly way, "is that life is not ameliorative, not a consistent, day-to-day improvement on what came before. I tend to agree, darling."

She returned her head to his chest, his heartbeat a steady thumping against her ear. "Yes," she said, "and sometimes even when we're convinced we haven't made a mistake, parts of what we've done still haunt us."

"Of course," he said. "We'd be pathological if that weren't true. Little regrets are part of what make us human."

She propped herself up on both elbows, looked into his face. "Do you miss anything about any of your old lovers?" He smiled again, ran his fingertips through the ringlets of hair that grew along the back of her neck.

"Don't be ridiculous, Kate," he said, lying, she was certain, bolstering her theory that a necessary lie wasn't a lie at all, but an investment in contentment. "You're all I think about."

"So," she said, "sexually speaking at least, your life is *ameliorative*."

"Absolutely." He pressed his lips to the top of her head, his kiss an exclamation point. "Sexually speaking, my life is paradise."

A really good man, this second husband. Intelligent, attractive without being fastidious, Aaron earned a high salary as a structural engineer, shared the cooking, did the dishes without complaint, ran the children's baths and washed their hair, unplugged the toilet with the plunger when one of the children went into a frenzy with the toilet paper. He tolerated Kate's indecision, her self-doubts about her choice of career (reference librarian at a Wisconsin Wesleyan, a small college ten miles from their home), the swings in mood provoked by her ruminative, often depressive nature. He came to the rescue each time she let her car run out of gas, wherever she happened to be. He balanced the checkbook when she neglected to track expenses and they were overdrawn. He was an

attentive lover. And yet. And yet, in spite of all, Kate often found him maddening. Annoying. She wanted to love everything about him. As an intelligent, rational person, she realized this was an impossible and romantic impulse. Aaron himself had confirmed it. And yet—

Most annoyingly, Aaron was risk averse. He had the furnace cleaned each fall and changed the batteries in the carbon monoxide detectors the first of every year. He wouldn't allow the children outside in summer without sunscreen. They drove a Honda Accord with front and side air bags, one of the safest mid-sized sedans in America, and every month he checked the air pressure and tread depth of their car's tires. Later that April Saturday evening, babysitter and dinner reservations procured, she waited in the car while Aaron circled it with his pressure gauge. When he finally got in, she asked if it was really necessary to check the tires *every* month.

"But isn't this a good thing," he responded, "to care about the safety of our family and the health of the planet? Under-inflated tires decrease gas mileage and are in danger of exploding. Bald tires provide almost no traction in the rain and snow."

"Yes, of course it's a good thing," she said. "It's just *the way* you do it. It's like the way you do everything. It lacks something."

"And what is that?"

"I'm not certain. Spontaneity, maybe."

"Spontaneity?"

"Yes."

"We should drive with bald tires in the rain, hit our brakes, and slide off a cliff somewhere?" He smiled. "Would that be spontaneous enough for you?"

She shook her head. "That's not what I'm saying. I'm saying that sometimes—maybe—life is richer if it brings you things you're not prepared for. That's all. We're always prepared. For everything. You carry band-aids in your wallet in case one of the kids falls down and cuts a knee. You refill your gas tank when it's still half full. And you always wear a condom. Always."

His jaw dropped. "Is that what's been bothering you?"

She shrugged. No, she thought, but now that you mention it, add it to the list.

"But we agreed!" he said, shaking his head. "Years ago. For the sake of the planet. Two children. Didn't we agree, Kate?"

She nodded. "Of course we agreed, and I still agree. It's the responsible choice. But Aaron, I'm forty-one years old. It won't be long and I won't be able to bear children."

"I don't understand."

"But you should understand! You should. I wish you did. I wish I didn't have to explain it to you."

He sighed. "You're being unfair."

"I don't want to get pregnant," she said. "At my age, all the risks. But sometimes, at least, I'd like there to be the chance. That's all I'm saying."

"And that would make our lives better? Worrying that you're pregnant?"

She shook her head. "Not better." She paused. "Maybe more interesting."

"More interesting," he said, flatly.

She nodded. He looked at her and squinted. He inhaled deeply and shook his head, shifted into reverse, backed down the driveway. Slowly. Safely.

She closed her eyes and breathed deeply, let her memory distract her. Kate had not been completely honest. Complete honesty in marriage was not a thing to be desired. Besides, it was a myth. Daily, in the random vibrations of consciousness, there were tiny lies and betrayals. Tell your spouse everything and you risked becoming the same person, two clear streams merging into a single, muddy river. Years ago they had seen an older couple at the mall, in their 70s, dressed exactly the same, the way some parents dressed identical twins. Matching white sneakers, navy pants, three-button shirts striped in red, white, and blue. Kate and Aaron found such a willing surrender of autonomy almost repulsive.

What Kate hadn't told her husband: two days earlier she'd kissed someone else. *Really* kissed him. A young man at the college, almost a boy, really, twenty-two years old. Matthew Jenkins. The first time Kate saw him, back in February, he wore jeans torn open at both knees, hiking books, and a green t-shirt with a diving whale's tail silk-screened across the chest. A knotted leather band encircled his left wrist, and a silver and turquoise ring shone on his little finger. He was at least six foot three, with a curly mop of brown hair and a thin beard, cut close to his face. Lanky, loose-limbed. Lovely.

She could not stop watching him. He was beautiful, yes, but there were dozens of beautiful young men on campus. Who knew why we found certain people so engaging and not others? Why some crawl into our brains and nest there? In Current Periodicals, he paged through *Science*, *Wisconsin*

Natural History, and *Field & Stream*. When he finished, he approached the reference desk, and Kate felt her face flush. He smiled at her, set his backpack on the desk. Blue eyes. Perfect teeth.

"Hello"—he glanced at her college nametag and smiled—"Kate. Could you tell me where the books are in this library?"

She smiled. "On the shelves!"

He laughed. "Thanks for clearing that up."

"Are you new?" she asked.

He nodded. "Transfer student."

"Well," Kate said, "Upstairs—we're in the East Wing now—we've got Government Documents on the second floor, and call numbers A through D, and E through H, on the third. The rest of the call numbers can be found on all three floors of the West Wing"—she pointed through the reference doors that led to the lobby connecting the wings. "Can I help you find something?"

He reached into his back pocket and withdrew a small, crumpled piece of paper with a call number written on it. She took him to Third Floor West and directed him to the book, *Refuge*, by Terry Tempest Williams. Chatting along the way, she found out he was an environmental studies major from a small town in Illinois, a birder, a vegetarian, an avid trout fisherman. She left him, holding his book clutched to his chest, on First Floor West at the check-out. He made a point of shaking her hand when he thanked her. His sweaty fingers smelled of sandalwood.

In the weeks afterward, Matthew stopped by the reference desk often. Sometimes he just said hello, but usually he had a slip for a book he needed, and she would lead him up into the stacks to find it. She began to pick out her clothing each morning with greater care, favoring styles college-aged women found popular: low-cut blouses, low-rise blue jeans or raffia peasant skirts, T-shirts dotted with peace signs, butterflies, or little books with wings. Bandanas. Long earrings that dangled against her neck. On the first day of spring, March 21st, Matthew brought her a gift, a bird feeder he'd made of cedar and glass, along with a small bag of bird seed. She took the feeder home, lied to Aaron about its provenance, filled and hung it from a branch of the green elm that grew just off the patio, where she could see it from the kitchen table and from her bedroom window. Matthew told her about the birds he'd started seeing on his walks through the college's wetlands, spring migrants returning or passing through on their way north: starlings, yellow-headed blackbirds, house wrens, cowbirds. He taught her things about various species—that European starlings, for instance, were invasive, introduced in New York City in the early 1890s, and that brown-headed cowbirds were a parasitic species, laying their eggs in the nests of other birds who did the work of incubating and raising their young.

Kate found Matthew's passion for birds endearing, his crush on her sweet and inspiring. She'd asked him to recommend the best of the books he'd been reading, work by Muir, Carson, Snyder,

and Dillard. She bought herself a copy of the *National Audubon Society's Field Guide to Eastern Birds*. Aaron, of course, noticed her newfound interest. He asked if she'd joined a birding group at the college, and she said no, but she'd been helping students find books about birds, and that had provoked her interest. Aaron nodded, not fully content with her answer, she could tell, but thankfully unable, or unwilling, to take the conversation further. Even so, she thought, there's nothing to tell. Nothing had happened, nothing tangible, other than the gift of the birdfeeder. Perhaps she was on the border of dangerous territory, glancing over barbed wire, looking at it, daydreaming about it. Perhaps. But she was under no obligation to map every nuance of her interior life for her husband, was she?

The trips Kate and Matthew took into the stacks, gliding shoulder to shoulder up the stairs, squeezing together between shelves filled to the ceiling with books, began to feel like intimate hikes into uncharted caves. The library's aging climate control system rarely worked properly, and the temperature on the upper-floor of the building sometimes approached eighty degrees. But they didn't mind. They were explorers seeking rare specimens. Sometimes the tension between them, the surge and swell of their bodies in such proximity in the library's muggy stillness, surrounded by the smell of bound and aging paper, seemed as thick as humidity in the spring air. Third Floor West, the location of most of the titles Matthew desired, was almost always deserted. Even so, they whispered there, their faces sometimes so close together Kate could feel Matthew's breath against her cheek, could smell the fruitiness of the gum he chewed, or the sweetness of the syrup he'd poured on his pancakes that morning.

One afternoon, the 29th of March, on the landing just before the door that opened to the stacks, the backs of their hands touched. And almost naturally, as if each hand contained a magnet, their palms came together and their fingers entwined. They seemed to pretend it wasn't happening, or had happened by accident, but they held hands as they continued into the stacks, and once there Matthew dropped her hand, pulled her to him, and kissed her so passionately she had to struggle for breath. She broke away for a minute, took a cursory look around the stacks, then led him by the hand to the most remote corner of the wing. She pulled a chair from behind a study desk, pushed him into it, hiked up her skirt, and straddled him while they kissed, her arms around his neck. For ten or fifteen minutes they kissed, and she tasted his lips, his tongue, the sweetness of him, felt the sharpness of his beard against her cheeks and chin. Their bodies urged themselves through their clothes, sticky with sweat and yearning, her own wetness leaching through her underpants, she felt certain, into his jeans.

They left the floor separately, without speaking. Matthew first, disheveled, glowing. After a stop in the bathroom to check her hair, smooth the wrinkles from her skirt, straighten her blouse, Kate wandered back down into the reference room. With each step along the stairwell, she felt the descent as powerfully as a metaphor: she was coming back down to earth. She felt energized, entranced.

The following Monday in a moment of temporary insanity she arranged a study carrel for Matthew on Second Floor West, a small cubicle with walls eight feet high, a tiny study desk and chair, a locking door that went all the way to the floor. Such private carrels were reserved only for graduate

students, but she signed for him, got him the keys. They met in the carrel to kiss four days that first week, their longing, the weeks of pressure rising to flood stage, funneled through their mouths. It's only kissing, Kate told herself. But the kisses ripened her body, caused her to swell and blossom, left her aching, wistful, electrified.

Matthew asked if she'd remove her clothes. She didn't agree at first, but a few days later allowed him to undress her, but only on the condition that his clothes remained on. Once naked, she did whatever he wanted her to do, stood on the chair facing him, sat on the desk, let him kiss and touch her anywhere, any way he desired. She allowed him to remove his shirt—she pulled it off of him—but his jeans stayed on. A young lover with a hairless chest and muscular stomach, he did everything with great vigor. Even with his pants on he finished quickly, and wasn't always attentive to what she needed without being told. But he did anything she asked, often clumsily, sometimes provoking laughter from both of them.

Though her brain swirled with the folly of her actions—the risk to her family, her relationship with Aaron, her career—and guilt settled in afterward like an unwelcome fog, she also could not help thinking: maybe this is what she'd been missing. Play. It was—and she abhorred the ubiquity of the word—*fun*. Not the sneaking around. The adultery manuals were wrong about that. Sneaking around was not part of the thrill. She hated it. But once inside the carrel, she felt like a young girl undressing for a bubble bath, free and easy and uninhibited. Maybe this is what people need to be happy, she thought. A library carrel for everyone!

April at the library was one long, beautiful, bewildering dream. A narrative of new beginnings with no thought or need of middles or endings.

One afternoon she arrived at the carrel and opened the door to find Matthew waiting, naked. For just a moment, she considered closing the door and leaving, but she didn't. She went in, pulled the door shut behind her. "What about our rules?" she asked. "Life evolves," Matthew said. "You believe in Darwin, don't you?" He smiled. Seducing a woman by citing Darwin? Who could resist? Within minutes her clothes were a bundle of rags on the floor. She abandoned discretion. They did everything.

Later, seated on her stool at the reference desk, staving off alternating currents of panic and exhilaration, she knew something had changed. Kissing had been fun, a game, a happy diversion, like picking wildflowers in the sun. Sex—intercourse—was something else, two bodies fully joined, a geological conjugation. Kate thought of pictures she'd seen of natural sandstone bridges in Utah's Arches National Park. Stone arches linking mountains. When a man came inside you, something happened, something big that could not be dismissed easily. The cells of your bodies yielded to instinct, the summons of geological time, like tides pulled by the tug of the moon. Joined by that bridge of rigid flesh, both of you crossed over, shined a flashlight into darkness. Kate decided President Clinton had been right after all. Lecherous and undignified as Bill Clinton had been, he did not have sex with that woman, Miss Lewinsky. There was a difference.

At home with Aaron, April proved the cruelest month. Kate found herself picking fights with him. She criticized him for leaving his shirts thrown over the foot of the bed, for forgetting to buy milk for the children on the way home from work, as he'd promised. Meals were tense, sharp words broken by prolonged silences. She began to take long walks alone after supper, left him with both the dishes and the children's homework.

They lived in a sprawling suburban subdivision west of the city, inappropriately and grandiosely named Fox Run Estates. There were no estates, just large houses sided in various colors of plastic with SUVs parked on concrete driveways. No foxes lived anywhere nearby—Aaron always joked the subdivision should have been named "The Foxes Ran." Walking along Bobwhite Lane (all the streets in the subdivision, Aaron noted, had been named for animals driven from the area by development), she passed an elderly man joylessly marching behind a self-propelled mower on his vibrant, chemically-enhanced lawn. She smiled at him, and a thought came to her like a revelation. Perhaps what she feared most of all was the future. Aaron might become that man and she could become his wife, hidden away somewhere inside the house, watching a hundred-year-old Pat Sajak spin the *Wheel of Fortune*. Would Aaron spend his twilight years meticulously tending his lawn as parts of his body slowly failed him? Would menopause leave her angry and regretful, her body a copse of sagging flesh and brittle bones?

She turned a corner, passed a mailbox hidden inside a giant rubber bass, its open mouth the door. Banality lurked everywhere here, Aaron always said, the curse of the American middle-class. Ironically, she was the one who'd wanted to buy a house in this neighborhood. Aaron had hated its ostentatiousness, rued the thought of living among glib, overweight businessmen who wore black socks and sandals and voted Republican, detested the inane chatter about mutual funds at neighborhood parties. He'd even made fun of the house they'd bought, imitated the rehearsed cry of awe the realtor exclaimed when she opened the front door and escorted them into the grand entry, its two-story foyer lit by a massive light fixture that looked like the lighted ball they drop in Times Square on New Year's Eve.

In spite of Kate's cruelty, and her rejection of the principles and schedules that organized their daily life together, Aaron seemed to move steadfastly through each day and night. He poured the energy he once gave to her into their children. She'd arrive home from her after-dinner walks to find the kitchen clean and Aaron reading books aloud to Joshua, or helping Frieda with her math facts at the kitchen table. He had also taken over tending the bird feeder and now kept it clean and filled in his usual responsible way, washing it in bleach water between fillings to keep disease from spreading bird to bird. She noticed two other trees in their yard had sprouted new feeders, one a tube filled with thistle seed, often covered with goldfinches, and the other a hanging basket filled with suet. New bird houses, too, swayed like ripe fruit from the crabapple tree, the mountain ash, the white oak at the far corner of their lot.

Moreover, when she arrived home from work, her *Field Guide* would sometimes be open on Aaron's chair by the window, certain pages freshly dog-eared: house finch, downy woodpecker, white-throated sparrow, rose-breasted grosbeak. Sometimes in the carrel Matthew would tell her the name of a new bird he'd just seen in the marsh, and a day or two later, shocked, she'd find the page for that bird marked by Aaron in her *Field Guide*. She didn't tell Matthew—they never talked about her home life—but it was the kind of thing she once would have raved about to Aaron, the irony and coincidence of it. She missed not being able to tell him. Over the weeks, their short silences became linked, grew into a longer chain of estrangement.

Then one night in late May, while she read in bed, silently, Aaron let out a long sigh. "Is there anything you need to tell me, Kate?" he asked, his back to her as she read Annie Dillard's *Pilgrim at Tinker Creek*, a book so magnificent that not long ago she would have woken him to read sections of it aloud.

"No," she responded, so clearly a lie it nearly caught in her throat. Her stomach clenched. "Why do you ask?"

He turned to her then, propped on one elbow, his face a mask of astonishment, his eyes brimming with tears. "Why do I ask?" he repeated.

If she hadn't had the book before her, she might have broken at the sight of his tears. She flipped back a few pages. She read a page to him about how Eskimos would kill wolves in winter merely by slathering the blades of sharpened knives with seal blubber and burying the hilts in the snow. A hungry wolf would come by and start licking the blubber, cut his numbed tongue on the knife blade, and bleed to death.

"Is that what I'm doing by asking you for an answer?" Aaron responded. "Am I licking a knife?"

She shook her head. " Go to sleep," she said. She tried to ignore his gaze, returned her eyes to the page, but could not read. He dropped to the bed, punched his pillow, turned his back to her. She thought she felt the bed quivering, the subtle quaking of his stifled sobs transferred through the mattress to her own body. She was shocked, really, at how sadness had filled the house right to the ceiling, how the necessity of dishonesty had so quickly undone them. Their marriage, once so like a tended garden, in seven weeks had gone to weeds.

Of course, the end of many things comes without the joy and promise of beginnings. The following week, as she and Matthew put their clothes back on inside the carrel after the sixth time they'd made love—she'd kept track and was going to pull the plug after number seven, lucky seven—Matthew wouldn't meet her eyes. "What's wrong?" she asked. He stared at the wall and told her that he

would be leaving for Colorado at the end of the semester, in a few days. He had a summer job lined up with the U.S. Forest Service, clearing hiking trails in the Rocky Mountains. He looked forward to the opportunity to see Western birds, to fish for cutthroat trout in the mountains.

Kate smiled, took a deep breath. "That's great," she said. "You'll be outside all the time." He nodded and smiled back, visibly relieved she had taken it so well. But then he went too far. He reached into his pocket and pulled out his carrel key, handed it to Kate. She'd given it to him on a ribbon braided of green and blue floss and several strands of her own hair.

She squeezed the key so tightly in her palm that it hurt.

"What?" Matthew asked.

"So this is goodbye? Just like that?"

Matthew shrugged. "What do you want me to say?"

"Go!" she said, pressing a hand into his chest, pushing him against the door. He pointed at the floor, his face pale. "My Birkenstocks," he said.

She bent over and picked up his shoes, slammed them against his chest. He put a hand over them, lifted his backpack over his shoulder, opened the door, and squeezed out of the carrel. She closed the door behind him and sat on the desk in her bra and underpants, her bare feet on the chair. All along the border of the desk were little pencil drawings of birds, dozens of them, pictures Matthew had made when he'd gotten anxious and arrived at the carrel long before their agreed-upon time. She didn't cry. She didn't want her eyes red, her face puffy, as she finished her shift at the reference desk. She felt more angry than sad. Disgusted with herself. Behavior she'd once rationalized as personal development, as a stay against the creep of mortality, as fun, now seemed ridiculously stupid and trite. The boy will have stories to tell in Colorado, she decided. What people say about librarians, he'll tell his co-workers. It's true.

Only he didn't wait until he got to Colorado. She began noticing young men sitting in the reference room, staring at her over copies of *Maxim* and *Sports Illustrated*. The boldest ones even approached the reference desk, handed her slips of fake call letters—PLS FK ME 2—and asked if she'd help them find what they were looking for. Humiliated and furious, she took the last two days of the semester off, rattled around the house alone after the kids left for school and Aaron drove off to work. Sat staring out the window into their back yard, which now sported two huge, concrete bird baths, one of them gurgling with a small, electric fountain.

So she was left alone in a mess of her own making, a nest she herself had soiled. How are such things undone? She had a husband no longer speaking to her, children who looked at her as if she were a stranger. Neighbors who waved and smiled each evening even though she didn't know their names.

That first night she skipped her walk after supper. Frieda and Joshua stared at her across the table as Aaron rinsed the dishes at the sink and loaded them into the dishwasher.

"Shall we do your math tables?" Kate said, to Frieda. Frieda glanced over at Aaron's back, as if seeking permission, but Aaron did not turn away from the sink.

Frieda shrugged. "Okay, I guess," she said. "I passed my plus nines last week. I'm on minuses now."

"Great!" Kate said. She pulled the box of subtraction flashcards from Frieda's backpack and held each one up until Frieda said the correct answer. Joshua continued to stare at Kate for awhile, then went into the living room and turned on the television. Aaron glanced at her occasionally as he wiped down the kitchen counters.

At bedtime, she sat next to Joshua on his bed and read to him from a book about dinosaurs. One of the pages explained that modern birds were descended from dinosaurs, that paleontologists had found fossils of small dinosaurs that appeared to have been covered in feathers. Furthermore, the record showed that a few species, such as Sandhill cranes, lived today with virtually the same bodies they'd had millions of years ago. Aaron entered the room while she was reading and sat down at the foot of Joshua's bed. He put one hand on Josh's foot, left it there until the book was finished.

The next night, after supper, Kate jumped up to do the dishes, and Aaron sat down with Frieda and her homework. After she finished cleaning up the kitchen, Kate started a load of laundry. She transferred it into the dryer a half-hour later, then emptied the warm clothes into a laundry basket. Folding Aaron, Frieda, and Joshua's socks, she felt a rush of sadness. Pushing her hands into the warm, cotton tubes, pressing matching pairs together, placing them in appropriate piles, she was struck by how oddly comforting it seemed, given how beaten down she usually felt by her life's many small repetitions.

For a week her life went on this way, normal at least in its external details. She did the dishes, vacuumed the house, filled the tub for the children's baths. But people could look well and be wracked by illness, carrying tumors or viruses that slowly killed them. She and Aaron continued to share a bed but slept without touching.

Kate returned to work—the college's summer session had begun—but each day brought her additional worry and heartache: she was late. Two days late, not an emergency by any means, since her cycles weren't strictly regular, but cause for some concern, since she had not always insisted Matthew wear a condom. Once or twice—okay, twice—they'd gone without.

Three days late. Then four. She found herself crying in the shower, in a bathroom stall at work, in

the car on the way home. Five. Six.

Arriving home early on a Friday afternoon she found Aaron already there, sitting on the porch with a bottle of beer. Waiting. She wiped her eyes as she pulled into the garage. She sat down beside him, the six inches of air between them, she felt, a galaxy.

"Hitting the hard stuff?" she asked.

He smiled and nodded. "Father's little helper," he said. He held the bottle out to Kate, offered her a swallow. She declined. "We've had a rough stretch lately," he said.

Kate nodded.

From behind him, Aaron produced a book, crudely gift-wrapped in newspaper. He put it on her lap. "I got you something," he said. "Open it."

The Atlas of Bird Migrations, a beautiful book, the cover a photograph of Sandhill cranes crossing the night sky before a red moon. He told her he used to think birdwatchers were a bunch of obsessive old loons creeping through marshes with binoculars looped around their necks. The last couple of months, he said, he learned differently. Birds had saved him.

"Ironic," she said.

He nodded. "I figured it might be."

Tears filled her eyes. "Do you want to talk?"

"Not now," he said. "Not like this."

That night, after they tucked the children in, she got into bed while Aaron showered. Propped on pillows, she opened her new book and began to read. Ten minutes later, her husband appeared in a white t-shirt and printed boxers, smelling clean, his hair wet. He crawled into bed beside her, rubbed his fingertips gently along her arm. Tears flooded to her eyes, a gossamer film between her and the words. She wiped them, tried again, but emotion overcame her, and she lowered the open book to her lap as she sobbed. She cried openly, the profusion of tears a full confession, a spilling of secrets. Aaron gently took the book from her lap. He brushed one hand over her head and down her hair, encouraged her to lie down, to close her eyes. Still sniffling, her eyes and nose inflamed by tears, she did as he wished.

He opened *The Atlas of Bird Migrations* and began to read aloud, softly. He read about arctic terns, once believed to be the species with the longest annual migration, a 22,000-mile trek between the polar icecaps. Ninety percent of their lives were lived in the air. Scientists had recently discovered, however, that another tiny bird, the sooty shearwater, traveled farther, an annual 46,000-mile figure-eight pattern over the Pacific Ocean, up to 680 miles a day.

Listening to the steady, reliable timbre of her husband's voice, Kate felt her body relax. She watched his lips move, saw shiny flecks of his teeth in the lamplight. Flocks of brant, he read, staged one of the most incredible migrations of all waterfowl, traveling from the Arctic Circle to their wintering grounds in Baja, Mexico, in a single, non-stop 50-hour flight. Most spectacular of all was the journey of the demoiselle cranes, who migrated over the Himalayan mountains, flying at icy, oxygen-thin altitudes up to 26,000 feet. Many died from hunger, from exhaustion, from predation by eagles, but the survivors flew onward, eventually reaching nesting grounds on the steppes of Kazakhstan, Russia, and Ukraine.

Aaron closed the book. He got out of bed, opened the windows, stared briefly into the darkness. The night sky was clear and spangled with stars, and the light of a half moon reflected off the trees. Cool air blew in through the window screens, fluttered the open curtains. After removing his clothes, Aaron lifted the covers, slid his warm body beside Kate's. With one hand he encircled a ripening breast, brushed his lips against the nape of her neck, a feathery kiss.

He tugged off her camisole and underpants, caressed her stomach with his fingertips, his mouth, his tongue. Cold night air flowed across Kate's skin. She closed her eyes as Aaron's body hovered over hers, and he entered her with nothing between them, and everything unknown and unspoken. Kate felt the bed gently rocking, her body pressed against her husband's, gliding over mountains, through the thinnest of air, returning home.

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Fiction

by Jonathan Dozier-Ezell

Miller Lite still tastes weak and sudsy no matter how close the hurricane comes. There's the drop in pressure, but no, that doesn't do it. The beer's still all head as it floods the tap and brims over. Connor pulls another; he knows my pace. He tips the mug on its beveled glass bottom, but the mug still foams its barley mattress. We both sit and wait a moment: expectant. He draws off the glass over the latticework drain. Another moment—and he fills it again.

"You know you could drink harder stuff, Preacher Man. Jack don't fizz."

"Can't seem to fit a shot glass in my hand," I tell him. I hold up ten fingers as proof. They are meat hands, good for nothing.

"I'll hand you the bottle then."

"Don't you wish." Connor's a good friend—the best of friends—like a son because he is and isn't. He chides me about the chip in my pocket: five years liquor free. *Counts too for beer, don't it? Nah,* I say, *beer's the exception.* I baptized him when he was just a baby. I was fresh from seminary like a dewdrop that still soaked the sun. Now he looks like I looked then, except for his right bicep wrapped in tribal. With his lips shut tight, he looks rough and tumble, but when he smiles he's your mother's son.

"You're breaking hearts today," I tell him. "You'll see how many these girls appreciate your pouring skills. Tomorrow night they'll come with hearts broken. If they come at all."

"They'll be in a mood alright. Every man—even you might stand a chance tomorrow." He paused and looked through a grimy bar window. The sky was painted soap scum and skim milk. But past those filmy windows it was probably a distanced blue: the blue cameras can't focus. "If we're even open."

"You'd better be," I tell Connor. "Every grocery store in town has a clerk I see on Sundays. I've got an image to protect."

"And what's that?" he jibes.

"That I've got better taste than swill beer."

Cheryl's Wrangler chugs into earshot; its large, bald tires scrape the chalky gravel. There's thirty seconds of silence before I hear her sandals fall on the driftwood steps. Connor follows the sound like a captive knows his keeper—the gait, stride, and pressure from heel to ball and toe.

"Rainbows," he says, because he knows what shoes she's wearing. "Thongs. You think that makes me obsessed?"

"Restraining order if she didn't feel the same."

"Thank God she does," Connor says.

"I will," I say more seriously than he expects. He turns a crooked smile toward me. "You've got no ear for sarcasm."

"I know," he says. "Let's hope God don't find out."

To be twenty-something again, I think: to happily ape what you don't understand.

"Pour me one," Cheryl says as she struggles through the screen door with a Winn-Dixie wedding cake and two tubs of off-brand vanilla. I stare at her perfect sandaled feet, her toes painted can't-wait-for-the-sunset orange. I accept the wave of guilt that washes over me, imagining this bride in less than what's decent. She loves me like Connor and asked my opinion on lingerie.

"Still working on his," Connor says after taking his time to take her in. The truth is he forgot all about my next beer. The thick glass handle wraps around his left hand and hits where Cheryl would put a ring if she had one. No rings for these two. *Just more to get lost down the drain*, they both say.

"That's hers," I offer, pretending to forget my own dry throat. "Nobody likes a sober bride."

"Least not the groom," he says as he finishes filling and hands off the mug with a kiss attached. "I'll be back. Nature's banging on the back door," he says.

They knew each other six months before he proposed. Connor said his longest relationship deserved

to be celebrated some way. God knows if they'll last. God knows if I really want them to last.

"Blake's at the store. He's coming over. Ships in the bay thataway," Cheryl says as she wedges the wedding cake in the freezer between battered chicken and waffle fries. She leaves the vanilla on the counter to soften. "It's for the bushwhackers," she explains, returning.

Another car wears at the gravel; moments later two more follow. If we cared to look out, we'd see that one has a channel brand tattooed to its side. "That's a lot of traffic this late," I say, meaning the date more than the time of day. Two days ago, police issued a mandatory evacuation for the island and surrounding coast. Most people took sense and ran.

"Who is it?" Cheryl asks. Her face is buried below the counter while the triangle of her thong stares above her stonewashed jeans. "Blake?"

"And others," I say, peeling my eyes like window stickers. "Some news van's what it looks like."

"Didn't know my wedding was news."

"Didn't either."

"Well, I suppose they're welcome. Someone can be the flower girl."

"All men," I tell her now that I can see. Blake is one of them; Wago's another. The third man—boy really—I don't know, but the camera on his shoulder gives him away.

"Too bad. Anyway, Connor'll have groomsmen then. They'll eat the cake at least."

"Who will?" Connor asks, returning from the bathroom with the scent of lilac spray trailing. "Where's the cake?"

"In the freezer. Buncha men just showed up to make a plea for me," Cheryl says and winks like Connor's blind. "What do you think about that?"

"They can have you if you'd go. And return you in a week. A little worse for wear, I imagine."

"Hey now."

"Take a joke?"

"When it's funny," Cheryl says and pouts pink lips.

Captain Blake grabs the brass door handle and swings the screen open. Before it clatters shut, Jake Wago and the reporter enter.

“Interrupting?” Blake asks.

“Nope.”

“Damn,” and it’s hugs all around. Blake’s a Baptist, so I don’t see him much. He says their barbeques are better and I hold service too long for the buffet line. Truth told, the Baptists don’t see him much, either. “Pour me one Connie,” Blake tells the boy.

“He still owes mine,” I say.

“That’s right. All right. Let’s just put you boys’ faces under the taps.”

Blake takes him at his word.

“Now, now. Ain’t we civilized?”

“You ask a ship captain?”

“My mistake. But wait anyway. We don’t buy good glasses to sit ‘em on the shelves.”

Connor talks like he owns the bar, but he doesn’t. The owner’s gone with the rest of them. He told Connor he could make what he could out of the storm. Told him he was foolish. Told him his preacher was foolish, and his bride-to-be was foolish, and the whole lot would be sorely missed once the storm washed through and he cashed his insurance check. Connor figures this is mostly right. *We won’t do any worse than the storm would,* he told me a few days prior. *But I ain’t no fool.* And he was right. Some people feel a debt to the land; some people don’t. I should’ve died during Fredrick and didn’t; I delivered a baby boy instead.

Blake and Wago are no fools either. Blake’s watching his shrimper, *Turin*. He has the half-infinity-sideways-eight-come-to-symbolize-Jesus fish painted a deep maroon on both sides of his vessel and swears it isn’t sacrilege. *Jesus brought fish to the Jews. Least he can do is bring me some shrimp.* I have a feeling he’d re-create *The Last Supper* if he thought it’d bring him a load. Wago is in it for no less selfish reasons. Being here, he guarantees he’s the first contractor on scene when the skies part. That will make him the biggest builder on the coast. His blue and white signs will dot the destruction like sand pipers at the water’s edge.

Connor lifts three beers overtop the bar and sets them down solid so the bar feels a thud. He reaches for a plastic cup, scoops deep into ice, and pours a Coke for the kid. “Here go.”

“Hey, what’s this?”

“No minors served here.”

"You want to see my ID?" the kid asks and gets as worked up as anybody. His face is red; he'll throw a punch for some barley. He's digging for his ID like a pirate on X. "How old do you think I am?"

"Thirteen," Connor says and pulls out another flowing mug from the tap. "Easy there. And take a joke."

The kid's red face continues but from humiliation instead of anger. He's shown his hand, and I can feel the warm embarrassment streaking down his hairless face. He's a boy who wants to be taken seriously, and he's just guaranteed he won't. He sulks in the corner: he fixes the isosceles pyramid of his tripod and wraps his Panasonic in what amounts to a fitted rain slicker. The blue cover matches the neon ribbon of the Pabst sign hanging in the window.

"What're you here for, anyway?" Cheryl asks. She leans over toward him because he's not as good as I am at hiding his horny intentions. God stuffed her chest better than socks could.

"Shoot the storm," he says through tense, terse lips. He won't explode like that again, he's swearing to himself. "I'm getting time-and-a-half."

"Well, just get my good side, k?"

"That's the back side," Connor says. We all laugh except for the kid. He's probably too uncomfortable to laugh at truth. I expect some critique, feminist or otherwise, about how we shouldn't objectify women, but nothing comes. His heart's fine with it.

"Y'all shouldn't—now please—I just won't stand for it," Cheryl says through the men's laughter and some of her own.

"Sit down then."

"Bend over, better."

"We'll see who's laughing when somebody sleeps on the sofa tonight."

"Now," Conner beguiles, "there's no need to go breaking hearts." And another round of laughter.

When the laughter stops, we hear the first percussive pecks of water on tin. Soon an untrained snare bangs out time above our heads. I go to the screen door and usher through. In the khaki sand at the foot of the steps below, dark brown dimples pucker the surface. Raindrops scatter across the bay's surface, pressing watery LPs with each drop. The roofless sky is at work shingling clouds that darken a linear gradient. The southern clouds are wrought iron as they push north in a spiral indicated on weather maps and punctuated by lightning. Here is a visitor from the African coast. They're calling him Ivan.

"Wedding bells," Connor says as the screen door bangs behind him. "That's all that is." He seems

disconcerted by my quiet. “What’cha thinking?”

“I don’t think your mother would like this.”

“She’s not concerned with much right now.”

“May be, but if you’d seen her face.”

“I’ve heard the stories. You told all.”

“I don’t know if I could tell *all.* But her face was one thing. She seemed to pray to God—me, since I was the proxy—that everything could turn out all right. She didn’t seem to have much faith it would.”

“Did though.”

“Hasn’t yet. She’d kill me if she knew what I’m letting her son do now. She’d call you crazy. She’d wonder what the hell you’re thinking. We should be gone, Connor. There’s no reason to do this now. No reason to do it at all. Do you even love this girl? Are you proving a point?”

“I’m not committing suicide.”

“Are you sure?”

“Are you?”

That double-edged question hangs in the air; I have no answer. Connor’s mother saved my life in 1979. I was finalizing preparations with a shelter for Hurricane Fredrick when a woman rushed into my arms. I had plans to go home, fix a meal, and ride out the storm in my Lay-Z-Boy with a bottle of The Glenlivet and a flashlight. She was pregnant, water-broken, and entering labor. I knew nothing about it and didn’t want to know, my commitment to God being the only one I was ever good at making. Her face—she knew she would die. What was important to her was her baby. My house, the place I should have been, was washed completely away by the storm; my Lay-Z-boy impaled on a broken limb. I should have died in 1979; I believe Connor feels the same. What are we doing here testing fate again?

“I’m glad I only have to wear this once,” I hear behind me. Through the fly-stopping grate I can see the older men doubled over, their teeth yellow against red-faced laughter. Cheryl has on her wedding dress, bought for a discount at a boutique in Fairhope and too ill fitting to have been tried on. “Last time I buy clearance, Connor,” she tells the groom.

"Gettin' more expansive already," Connor, who can't resist the pun, says.

"Goddamn they make a dress for a woman with boobs," she screams, frustrated by the tightness in her chest. "Oh," she sees me staring, "sorry Preacher Man."

"Just let's get you married and out of that dress," I tell her. I'm glad for the cloud cover darkening my face. Only the reporter sees the cringe of blush cross my cheeks.

"You kids hurry up now and pour another round," Captain Blake says.

"Never thought I'd tend my own wedding," Connor tells him.

"Well, I wish you weren't. Maybe I'd get some service, hunh?" says Blake.

"Maybe you're buying the next round."

"On my tab."

"What tab? You've got none here."

"What are you talking about? I've got excellent credit for a ship captain."

"I'll just come behind the bar and fix myself," Wago says, and he gets up and does it.

"Nope; no one behind the bar. Strict orders."

"From who?" Blake and Wago blare.

"Commander Pete," who is a parrot, who is stuffed, who serves as scapegoat whenever Connor feels like.

"Well, up yours Petey," Wago tells the stuffed bird. "Here's one of your own," he says with his middle finger extended.

"Dearly beloved," I begin and hold for applause. "We are gathered here today—"

"Alright, sure," smacks the crowd.

"Hush now," Cheryl glares. "It's my wedding here." She is unequivocally serious.

Amid the saying of vows and the smiling, now-quiet faces, two events happen that no one notices. The first is a sudden darkening, strengthening of the sky above us; clouds roil and lower the ceiling as a posted sign—*No Dumping*—bends in the wind, forming a taco shell before it's ripped from its moorings. The water level, despite all the rain, lowers with the barometer. The second event is smaller, more discrete: The peacock reporter turns on his red light.

"I do," Cheryl says.

"So do I," Connor seconds.

"I haven't asked you yet."

"You know the answer. I'm just hurrying along. These boys are dry as all."

"Here, here," say Wago and Blake.

Comedy to ease the tension. This is a trait inherited from the mother he never met. Before she died, but as she knew she would, Connor's mother looked at me and said, *Hey, Preacher Man, when God looks in the mirror, does he see dog?* As Connor grows more nervous, everything he says will be funny.

Hail pings the tin rooftop.

"Fine," I say, never one to stand against pressure. "If you do and you do then we do. I now pronounce you—"

"Tender and wench!" Connor yells to general cheers. He scoops up his bride and drops her roughly on the bar. Her legs wrap tightly around him. I try not to think of the force of their groins. "For better or worse and can't get no worse." They hug and kiss like they're the only ones in the room.

"What about the beer?" Wago asks.

"Get it your damn self," Connor says, his lips still muffled against Cheryl's kisses.

"Don't mind if I do."

"Me too," says Blake.

"And me," Thompson cries, which is the first happy peep from him yet. He's set the angle wide on his camera propped above bar height. It's recording to a hard drive he expects to last the storm safe in its protective coating. "Me. Me too."

"Sure, kid. And what's your name?"

"Pal. Pal Thompson."

"How'd you find him?" I ask Blake while Wago and Pal tilt our mugs every-which-way to ease the head.

"Found us. Not hard when the whole island's been evacuated. More like 'Looka that guy,' and he followed. Me and Wago talked about it. 'What the hell?' I say. 'Safety in numbers.' Wago says the

storm won't care too much. I say 'Well, can't hurt.' I guess somebody's expecting he'll beam some images. Maybe get a good shotta him in a raincoat looking all 'Call me Ishmael.' 'This storm is one great white whale.' That'll be what they call the tag."

"Yeah, maybe."

"But I don't give a damn. Like I say, I figure, no news station's gonna put their man in harm's way. Means we're safe."

"Or they never counted on paying overtime."

"That too," Blake says in a way that tells me he hadn't thought of that.

The mood is good as long as we're dry, but leaks pop up in the tin. There are two yellow mop buckets behind the bar put quickly to service. In the distance is the thwack of a Hollywood punch: a tree felled. The mop buckets fill and a third leak springs. A hearty pine falls at the parking lot's edge.

"They wouldn't send you no place you couldn't get back from," Blake says to Pal, resisting the urge to raise the end of 'from' to a question.

"No. They're expecting. Soon as the worst passes. I'm outside in the van sending. Sending pictures."

"They have another journalist? Down here?"

"No."

"That's a good sign," Wago says. Wago's voice is flat and wide like an oar. There's no telling serious from sarcastic. "It means they're hopeful."

More comic book punches—*crrrrack*, *sfthump*, *ssshhhrash*—and we hear the unmistakable screech of a main mast losing its deck while mooring lines strain to hold against the wind.

The sky is a Thorazine depression, shuffling its grey mass and heavy weight; and a wind that could move mountains, though mountains won't get in its way. Nothing but sand beaches, salt marsh, and brave earth jutting out into sea. When the prodigal ocean returns twice its depth and two stories high, the island divides. There is Adam and Eve, Cain and Abel, Sodom and Gomorrah, Egypt and the desert, Noah and Ham, the flood and the olive branch, heaven and hell, the islands and furious water.

"Let it flow!" Wago cries with menacing fear.

"Liquor or sea?" Connor yells over the din.

"Both." The men throw their heads back in skinny laughter, laughter that hasn't eaten for days.

As an impromptu midwife, I was mistaken for husband and father. The other shelter seekers—hiding from the sins of nature the near side of thirty years ago—told me how beautiful my son was; how sorry for my loss. *No, no, I'm not*—I began when I stopped to realize that's what she had made me. The boy was my son now; if not mine, then who else's? Not one gene of mine is in him, but we both cry ourselves to sleep at night; we both bring the bottle to our lips the same way. It's what happens when nature doesn't nurture.

"Hand me one," I tell him. "Take me to The Glen."

"Sure?" he asks with biological concern.

"What'll I use this for—a life raft?" I say, and finger my chip out of pocket. I drop it in the tip jar—makes a sound like a dead bell. The single malt burns goodness from my tongue. It wells in my cheeks, and I savor the light alcoholic grit. Down my throat, it's a shuttle of heat that wakes the fibers. Fear and alcohol bring a prayer to my lips. *Once and no more*, I whisper softly because these are not praying people—good people, but not praying people.

"Ain't it coming in pretty fast?" Cheryl asks. She's talking about the three leaks and two new ones that quick open up the sky.

"Soaked bone to bone," Blake says.

"Hell with it," Wago says between mighty gulps. He's moved from beer to clear liquor. His tongue trembles as it guides the taste down past his throat. "Worse is here, better for me."

"You'd say that," Cheryl glares.

So far we've avoided confrontation. We've somehow managed to forget the lasting imprint of Cheryl's petite hand across Wago's face. Cheryl is old-time Earth First. Albee's her gospel. Not the kind of philosophy that makes her and Wago friends.

"Wouldn't you like it if the whole damn place went under?" she says.

"Long as it comes back again. Guess I'd need someplace for men to stay," he adds as an afterthought.

"Is the whole world just a damn blank slate to cover?"

"Nah, not my ambition. I just want this little part, thank you very much."

Wago kisses the air in her direction—the same pursed-lip motion that got him slapped before. Cheryl's face turns a port channel marker and she sips air like a whistle. Her chest is tight against her wedding dress, and angry, she looks like she'd rather be free of it. She discharges bitter air from her gut and goes to the restroom to change. "—ucker," she says on her way, her voiceless teeth and lips lost to the storm.

"Am I gonna have to find another place to drink?" Wago turns to Connor. "You'd think that girl of yours'd take a joke."

"Why don't you just calm down. Maybe think before you speak," I say.

"Shit, why don't we all just gang up? The simple picture's the one that works best, huh? Just a soulless contractor. Don't you think I want to see this place back to the glory it was? Greater than?"

"You're not exactly doin' it for charity," Blake offers.

"And I'm sure you sweep the sea of shrimp cause you want everyone to know how great they taste. I gotta make a buck. I gotta eat, I mean. That makes me bad? No, I don't think so. Sure, I know, developers, contractors—we're the bad guys. But I bet you give every enviro-mentalist a condo on open gulf and sand, and you see how quick they'll talk about 'Well, at least I use energy-saving lightbulbs.'"

"I'm not saying you're wrong," I tell him, "but I am saying you're asking for it. And I'm asking you not to."

"Yeah, fine. Whatever-you-win."

"I swear to God. You no account, land-raping—chauvinist truffle-nosed—" Cheryl comes out fuming. I'll be damned if everything she wears doesn't make her beautiful. She's in a third change of clothes: running shorts and a dirty Frank Brown t-shirt. Her body could make a gunny sack fashionable.

"We've resolved it," Connor covers her mouth with his hand and then a kiss.

"Sure. I bet you have. *Men*."

"Jesus. Now I'm woman hating?" Wago throws up his hands in a can't-win-for-losing gesture. "Darling, I'm nothing but a lover."

"Bite me."

"Alright now," Blake quells.

The argument can't go on for long anyway; only a rehashing of what's gone before. Rather, it's more a welcome distraction from the noises outside growing increasingly hostile, increasingly familiar with our fears in the moment. I catch myself wondering what kind of death it will be. I pray for swift and painless, the kind of instant, thrown-from-the-car-wreck death cops tell kids about on network TV. I've never feared drowning, but I have reason to fear it now.

"I kinda thought this would be fun," Cheryl confesses.

"Nope," Connor says.

"This isn't a honeymoon."

"Wasn't meant to be."

"What was it meant for?" I stab. There is nothing that makes me angrier than a man who knows my poor intentions and shares them. I don't understand why he's included Cheryl, but I do know that we both came here to die.

Through the wounds in the roof, the sky is the color of the hail-pocked, mottled tin. The storm roars like airplanes, or locomotives, or Sunday pew-warmers late for the twelve-noon buffet. The bay is a liquid badland with wave after wave of rising-rock sea; the boiling flood seeps the cracks beneath us—tears overflowed from a determined hell.

"But I love you," Cheryl continues. Her words ambulate across her tongue with the thin legs of pine needles. Not only her voice, but her body becomes a whisper against the storm raging as much inside as out. Her quiet lips accuse Connor through the rain.

"Me too," he begins his defense. "Look at all the trouble." He raises his arms skyward to indicate this whole affair is just a celebration: All this destruction for her.

"That's not even funny."

"No?"

"No. The idea that—I mean, to blame me for all of this. Really."

"Aint this love? Aint this the romantic storm and all that? Aint you a damn-sel in distress and I'm here to rescue you?"

"This isn't about me at all."

"You're damn right it ain't."

"Then why the hell am I here?"

Now we're all picking fights. I try not to celebrate their argument; try not to imagine myself with her; try not to let myself wonder, like Cheryl, why Connor insists on involving her in his own demise. I feel obligation to this hours-young couple. "Cheryl, listen. Pay that attention to waste your money. Let it go. Just nerves." And to Connor, I say, "Jackass."

Blake's found a dry spot near a window and he's paying us no mind. Instead, his vision fills with the gray glass as he wipes it clean to see the gray outside. He's looking for *Turin* and straining his eyes against the endless monochromatic scene. Blake is questioning his hurried moorage. His eyes strain to their pupils' limits when his paper lips crack across yellow teeth. There she is.

"Lifting. Lifting," Captain Blake mutters. We almost miss his voice in the storm's vitriol.

"Don't get too excited," Wago tells him. "She's faithful."

"Ain't they all?" Conner says.

"Not far to the eye," Blake says. "We're in the middle of it now. There's still to come as bad as we've had. Isn't over. For sure."

"Think we'll go through it? The eye, I mean."

"Hell, I hope not. Nothing worse than peace and quiet knowing hell's to come."

Blake is right. Our fear has direction. Each pelt on the sagging metal roof distracts us from the one before. We're standing knee-deep in rising ocean water. The sour scotch in my stomach screams out, out, out, while the flood ushers complicated clusters around us. Debris is strewn where land should be. But there is no land. Nothing but water and brave stands of trees tall above the flood. Palmetto fronds struggle on the surface like fingers vainly grasping solid ground.

If we had that peace, that tranquil calm of the eye, where would our fear go then? There are stories—myths more likely—of what people see in the eye: trees torn down, roofs demolished, the sun poking politely through. Then after the storm, the counter-rotation, everything seems set right again: the tree stands again, the roof somehow more secure, the sun apologetic for its momentary lapse in

judgment. But what is more likely is just the opposite. Like steel wrenched in two directions, we would all surely break. Seeing peace and knowing war—the blitzkrieg of furious ocean—the mental strain snaps. Our minds become signage for disaster; our hopes for mercy are too meekly relative. In the silence would linger the lasting question: The first half of Ivan took our land. What will the second half take?

"No worse for wear," Blake says. *Turin* is still floating and mostly anchored where he left her. Blake is like a mother distracted for the loss of her child. But now the prodigal is found again, and he's getting his thirst back. "Cause for celebration. What little cause there is."

We throw our heads back in Bacchanal riot with all that remains of the bar's top shelf. We time our deep swallows with the fierce storm bands that streak across like the barrier-broken onrush of screaming missiles. The water comes in and goes out again, always leaving a little of itself behind. Lesser men could become confused, so there's no shame in admitting I am. My memory lies in wait through the storm and pounds on the last synapse withholding. Water rushes in; rushes out. Same as memory. Leaves a little behind.

Will you take care of my boy? she used her last breaths to ask me.

You're fine. Look at you, I mustered unconvincingly.

He will need clothes. And diapers. Other people will help. Other people always help when that's what you need.

Only till you're better.

And if he could go to school, that'd be nice. It'd be nice to look down on a smart kid.

Soon as the storm passes we'll go to ER.

God loves me doesn't he?

He loves all his children.

Never mind, she sees through my patent response, *I'll ask Him myself in a minute anyway.*

Just lie down and relax.

There's nothing wrong with dying. You should know.

I should. I should have. I should now.

"Lost her," Blake says. Most of us revel and wonder, but I notice Blake's concern. Something troubles him; something on top of the storm; something ties in with my own.

"What is it?" my voice carries over the storm's wicked baritone. I slosh toward him on blue legs, my skin made iridescent by the water's wrinkling action.

"Lost her."

"Who?" I ask him, wondering how he could know.

"Lost her. Lost me."

Another band pounds the hovel, and the sea returns with the wind; *Turin* seeks its wear-worn captain and plows deep into the bar's starboard side, its anchor line formerly sure but now chain-rusted, unkempt, and a league shorter than it used to be. Having the benefits of nature's force, the wooden vessel barges through the wooden hut like cracking nut on nut in a tight-fisted hand. The building is wounded mortally; the outside rushes in. All levels rise: water, wind, pain. The mood is broken, and with it, the mood's great promoter. Wago lies unconscious, greeted face-to-face with the massive ship, and he lies off to one side above the rising waterline. *Turin* misjudged in its hurry, missed its mate. Our brave certainty withers through the seats of our pants. It would be a God-awful smell if you could smell anything but rain. Now only one sign will bear Wago's name.

"How much longer?" Pal asks anyone who might know. He means the storm, but what he's really thinking is how much longer he'll have to look at this wreck. The bar's solid rafter fillets the ship's brush-stroke fish. It's tie lines limp dumbly across the picnic-tabled interior. The water rises and bobs Wago's body so that there's no doubt he's dead. With one leg caught underneath *Turin*'s bow, there's little chance he will wash away. Our deaths seem so certain we almost ask for them, even the ones who don't want to die. The storm no longer rages; it is rage. It is the caustic torrent of bitter hatred, unknown penance for unknown desires. Fear that breeds an indelicate balance.

It is morning by the time the clouds lift. I am surprised the sky can fake the veneer of nautical blue over the low ceiling of the day and night before. There is no sound other than the water's peaceful

lapping, the sound of a dog's tongue. There are no birds, no insects, no animals, no people: *lap, lap, lap*. The wind draws cerebral curtains on the bay, and I'm furious it pretends at peace. Once again, I survive despite my best intentions. God's mercy least reserved for those who serve him.

Pal wakes dutifully and grabs at the camera's bag. With an idiot's grin, he wades for the van, which is now mostly above water again. By early morning light, he's cleaned up what he can. His hair is combed; his face silt free; his voice as clear as this goddamn morning. But windows have broken and the van is flooded like everything else; nothing has power, much less functions. Pal is stuck with his grin and terrific footage that no one on earth will see.

"Poetic, ain't it?" I say from the banister.

"Like hell," he says, and kicks tires.

Jonathan Dozier-Ezell is a writer whose home on the web can be found at www.jonathandozierezell.com. Wreckage from Hurricane Ivan still remains in hidden nooks and crannies along the Gulf Coast. This story was written within site of several submerged shrimping boats still rotting and waiting to be claimed.

Article

by Jim Fitzsimons

When architect James Meyer set about to create a master plan for Pringle Creek Community, he was working off a fairly ambitious request from the property owner: design a walkable, mixed-use, sustainable development with the community-enhancing aspects of old city neighborhoods; have it reflect the most comprehensive thinking and best practices in the field of green infrastructure; and save, for re-use, as many of the pre-existing buildings as possible. Oh, and save every tree that you can.

View of existing onsite buildings from new cottage construction.
Photo courtesy Pringle Creek Community.

"It was bit daunting," Meyer admits, "being asked to put it all together like that, but my feeling was, and still is, that sustainability requires laying out a plan that respects and restores natural resources while fostering a robust sense of community." Meyer, who is a principal of Opsis Architecture in Portland, Oregon, adds, "Another way to put it—a sustainable neighborhood will also be a better, more social, more fun, place to live."

Reimagining the Legacy of the Site

Pringle Creek Community's 32 acres are

part of the 275-acre campus of the former Oregon Home for Developmentally Disabled Children. When the State sold the entire property, which sits on gentle hills just three miles from downtown Salem, it was to a group of community investors committed to green development. Whether the other 243 acres will eventually be developed as a walkable neighborhood is unclear—it's still the hope—but in December of 2004, Sustainable Development Inc. (SDI), a local company, purchased the 32-acre parcel and was ready to get started.

Pringle Creek Community's portion of the old institution had been used for growing food in the gardens and in the two historic Lord and Burnham glass greenhouses, each more than 2,500 square

feet in size, and contained the institution's central steam-heat plant and a number of construction support facilities.

Pringle Creek Community site plan. ***Click graphic for larger image.***
Image courtesy Pringle Creek Community.

When SDI and the design team began their discussions about the project they realized it would be focused on the very things—food, energy, and construction—that were the legacy of the property. The new neighborhood would have extensive community gardens and the greenhouses would be restored to active use. The greenhouses and many of the homes would have geothermal heating and cooling, making use of an existing high-capacity well. Many of the homes and buildings would use solar energy for hot water and electricity. Construction on the project would showcase craftsmanship, durability, and state-of-the-art green materials and technology.

These elements became central to the basis of design and were joined by a much longer list of sustainability goals and principles that were adopted to guide the project. In an effort to learn the aspirations of the local community, the development team met several times with a small group of potential residents. The Friends of Pringle Creek Community became a valuable sounding board for ideas and energy. "The 'Friends' reinforced the point that designing infrastructure and building homes responsibly was just part of their broader goal of participating in a truly livable community," says Tony Nielsen, Pringle Creek Community master plan coordinator. "More than anything, they talked about a walkable neighborhood that is active and vibrant, fun to come home to."

With consideration of the project goals and the Friends input, and after careful analysis of natural and built features (e.g., existing trees, riparian areas, topography, solar exposure, prevailing winds, and existing buildings and roadways), Meyer and the design team created a master plan that includes

a fine-grain mix of 139 lots and community common spaces linked by paths, trails, and sidewalks.

Housing Types at Pringle Creek Community

"Tall House" Residence

Single Family Residence

Townhomes

Net Zero Energy Home

Attached Homes

Live / Work Lofts

Graphics courtesy Pringle Creek Community.

In the autumn of 2006, construction of utilities and streets began. That was completed in summer 2007. The infrastructure, including extensive landscape work, was completed in fall 2007. By that point, though, the project had already received a significant accolade: in March 2007, it won the inaugural "Green Land Development of the Year" award from the National Association of Home Builders.

Achieving the Goals

The planning and infrastructure work on Pringle Creek Community was guided by a the list of goals that was created at the beginning of the project, including:

- Preserve as much open space as possible
- Preserve and reuse as many of the eight old industrial structures as possible
- Create habitat and recreational corridors
- Eliminate all rainwater run-off to city stormwater system
- Layout building sites for maximum solar opportunities

Examples of the careful work that has been done show the breadth of the community's commitment to its goals:

Mature trees, including 80-year-old fir and sequoia groves, a stand of 250-year-old oaks, and two rare yew trees estimated at 1,500 years of age **were preserved and protected as part of an active open space plan.**

Smaller neighborhoods within the project were defined by natural features and pedestrian and vehicle connectivity.

Pringle Creek's green street system is among the country's largest residential applications of porous asphalt. The design features narrow roads to reduce hard surface area and construction costs while slowing traffic.

Rainwater management and protecting water quality were included in the detailed plan. Each lot is designed to reduce offsite flow. The porous streets and series of small bio-swales are designed to manage runoff and provide natural rainwater infiltration. This is a development where you will find no stormwater piped off site. The entire project has been designed to maximize distributed infiltration of stormwater, eliminating the concentration of pollutants found in typical collected stormwater systems.

The Oregon Department of Energy provided a lot-by-lot analysis of solar capacity, leading to building orientations that maximize each home's potential to capture the renewable energy of the sun.

An integrated landscape irrigation system has been created using untreated well water for the initial watering period of native plants in the common landscape.

Throughout infrastructure construction, some **heavy equipment that operated onsite used biodiesel fuel**.

Five unique buildings were preserved for restoration and use as community and commercial spaces. Each of the buildings, built between 1938 and 1964, is located within the Village Center and offers a sense of history and authenticity while preserving embedded energy and creating economic opportunity.

One brick-and-concrete building was **deconstructed and recycled** while two metal buildings were **deconstructed and relocated to other sites**. Concrete foundations were demolished and the **material was reused onsite**, providing a unique porous parking area.

Pringle Creek Community's community garden.
Photo courtesy Pringle Creek Community.

Interesting Times in the Housing Market

Have there ever been such interesting times, to put it mildly, for developers? Just a few years ago when work began on Pringle Creek Community, the housing market was hot, the economy was strong, and energy prices were a non-issue. By mid 2007 it became apparent we were in a housing bubble and the bubble had been breached; the air was rushing out. Energy prices were on their way to tripling in three years and were predicted to continue rising—forever.

That spike in energy prices might have become a boon for green developments. Smaller, more energy-efficient houses in neighborhoods designed for walking started making sense to more people.

The spike didn't last long. Energy prices have plummeted back to the old "ridiculously cheap" levels. But it might not be much of a setback for green development. When a sharp drop in energy prices is part of an international financial meltdown, people don't start singing "Happy Days are Here Again." In fact, people have heightened concerns.

Don Myers, the project manager, puts it this way: "Despite the return to low prices, people know that energy efficiency is the future. It's not just price; it's carbon, it's national security. A lot of people would like to see their government incentivize efficiency—and with the new administration, that might happen."

Although house prices in Salem are still up almost 50 percent over the past five years and only down a little over one percent from third quarter 2007 to third quarter 2008, the housing market is slow. Lot sales at Pringle Creek reflect the current wait-and-see attitude of consumers. In response, the development team is focusing on the refurbishing of the pre-existing buildings that will be a big part of the commercial Village Center. Work is being done on those elegant greenhouses, the community gardens, and the geothermal heating and cooling system, as well.

No Shortage of Activity

So there is plenty going on at the site—not least of which is people from surrounding neighborhoods and the nearby employment park walking, bicycling, rollerblading around on the paved paths and sawdust trails. This project is friendly to the community surrounding it—and working on building a community within it. A nonprofit Sustainable Living Center was created for education and outreach focused on opportunities to reduce our ecological impacts and strengthen the social fabric. The Center has hosted hundreds of school groups for tours, and thousands of visitors for events such as the annual Salem Green + Solar Home Tour, environmental films and reading groups, classes and workshops related to sustainability, and local foods cooking competitions.

A special focus of the Center is demonstrating the importance of local food, by connecting with nearby farms and creating an "edible landscape" within the neighborhood itself. Over 300 fruit trees and 200 blueberry bushes have been planted amidst the two acres of orchards and community gardens, as well throughout the general landscaping of the development. The idea is to create a place where fresh, organic food is abundant, where neighbors can gather in gardens year-round to harvest fresh food, and where children in particular are reconnected to the joys of healthy food.

An early decision of the project team was to build a house that represented healthy, energy-efficient features in a beautiful, livable design. The home is a two-story, 1,400 square-foot cottage that was designed by Opsis Architecture. It includes photovoltaic panels on the roof, sustainable wall and insulation systems, rainwater harvesters, high performance windows, and maximized daylighting. The Learning Home was a Grand Award recipient in the October 2008 *Builder Magazine* Builder's Choice Awards. The home was just the sixth LEED-Platinum house in the country—and the highest scorer. "LEED" stands for Leadership in Energy and Environmental Design. It is the certification program of the U.S. Green Building Council.

Recently, two custom homes have been built at Pringle Creek Community by local green builders and are on track to achieve LEED-Gold status, an exciting prospect for the buyers, who look forward to lower energy costs and reduced carbon emissions. More prospective buyers are looking to move forward, even as they cautiously watch the world economy.

A buyer who decides to build a home at Pringle Creek Community can choose from a long list of green features. Other housing types to choose from include row houses, loft apartments, and a range of single-family homes. Opsis is designing various models—some that will be quite traditional, like the cottage house, and others that will have a more modern look. The designs will serve as templates for builders. New designs by outside architects are welcome, in conjunction with the Pringle Creek Community Design Review Committee.

Something that isn't optional, however, is a commitment to sustainability. All new buildings must be rated at LEED-Silver or better. Another requirement is that all lumber used in every home comes from forests that are sustainably managed. In fact, the charter of the Design Review Committee is much more oriented to sustainability, and less focused on a particular architectural style, than is typical of today's housing developments. That will enable the community to grow and develop more organically, capturing "a certain serendipitous nature," as Meyer puts it.

Lord & Burnham greenhouses were original to the site and have been renovated for continued use.
Photo courtesy Pringle Creek Community.

And so it grows, not rigidly but with thoughtfulness and creative energy that moves back and forth between the planners, owner, architects, builders, and residents. Led by architect and planner James Meyer, the development team has embraced the opportunity to look at every decision through the lens of sustainability, integrated with fostering social stewardship. From land use to green infrastructure, and from housing diversity to building restoration, from renewable energy to energy-efficiency, at Pringle Creek Community one green thing always leads to another.

Pringle Creek Facts

Location: Salem, Oregon

Project Size: 32 acres

Green Space: 12 acres

Housing: 139 individual lots across 7 different housing types + potential 40 mixed-use units

Home Sizes: 960-2,400 square feet

Home Prices: $250,000 - $550,000

Density: 5.6 units per gross acre; 8.9 units per net acre

Energy: Solar, Geothermal, Natural Gas, Onsite Biodiesel Co-op, Green Energy (through regional utility)

LEED Standards: Residential: Silver or better; Commercial: Platinum

Green Streets: Include porous asphalt, porous concrete, blue-green bio-swales, narrow pedestrian-friendly streets, no curbs, gravel parking strips, most streets are "cueing" and many homes are served by alleys

100% Forest Stewardship Council Certified Lumber

95% Stormwater infiltration (eliminates curb and stormpipes and runoff

80% Trees preserved

Pringle Creek: Restoration ongoing through community partnerships

Community Gardens: 200 assorted fruit trees, 300 blueberry plants

Parks and Trails: variety of trails connect parks and public spaces

Restored 2 Greenhouses and Conservatory

Preserved Buildings: 5 existing buildings

Reused concrete beams for bridge

Jim Fitzsimons is a freelance writer and copy editor in Salem, Oregon. He is a long-time urban bicyclist and environmentalist and has worked with Pringle Creek Community's online marketing efforts.

Article

Title photo (left): Coral reefs are the world's largest structures, so large that they can be seen from space. Photo by Jeff Yonover.

by Rick MacPherson

The Galapagos Islands, giant tortoises, and finches may provide the popular backdrop for Charles Darwin, whose 200th birthday the world celebrates on February 12, 2009. But as a coral reef ecologist and conservationist, I'm drawn to one of Darwin's less familiar contributions to our understanding of the natural world. In addition to his fondness for beetles, birds, and barnacles, Charles Darwin was also fascinated by coral reefs. So much so, that he spent the better part of his life attempting to understand their origins.

In March of 1832, just three months into what would be his five-year voyage aboard the *HMS Beagle*, Darwin recorded some of his first observations of living corals. While the *Beagle* crew was busy mapping the hazardous waters surrounding the Abrolhos Islands between Salvador and Rio de Janeiro, Brazil, Darwin fixed his eyes beneath the surface of the shallow tropical seas.

"The bottom of the adjoining sea is thickly covered by enormous brain stones; many of them could not be less than a yard in diameter," records Darwin in his zoology notes. "Without being in the immediate presence of limestones, how extraordinary it is that these *polipi* should be able to obtain such an enormous stock of Carb. of Lime. This is an instance (perhaps not a strongly marked one) where there is a great formation of corals, the lime obtained without the neighborhood of volcanic action."

We might be tempted to chuckle at the quaint, Victorian use of *brain stones* to refer to what we now know are brain coral colonies. Darwin recognized that coral is indeed a living organism, though it's easy to see how they would be mistaken for stones. The living portion of a stony coral colony is just

a delicate film of tissue growing atop what appears to be rock. What truly puzzled Darwin at the time, however, was how such massive stony coral constructions could have formed in waters that seemingly lacked an important chemical building block for limestone, which was known at that time as *carbonate of lime*.

Fijian coral reef: Coral reefs are composed of more than just coral: they are home, protection, and life support systems to millions of species, including humans.
Photo by Jeff Yonover.

The origins of limestone from the remains of marine organisms deposited in ancient seas was commonly understood by 1832 (for instance, the chalky-white Cliffs of Dover are composed mainly from fossilized, microscopic marine plankton). But in addition to carbonate of lime, Darwin was likely unaware of the high concentration of calcium in seawater as well. Darwin believed at that time that the growth of corals required that only a steady supply of carbonate of lime be brought up to the seabed by volcanic action in the vicinity. In reality, the coral animal collects the necessary building blocks for its stony skeleton from its surrounding waters. But Darwin lacked a complete picture of coral metabolism and, at the time, was unaware of a remarkable symbiotic partnership playing out within every coral colony.

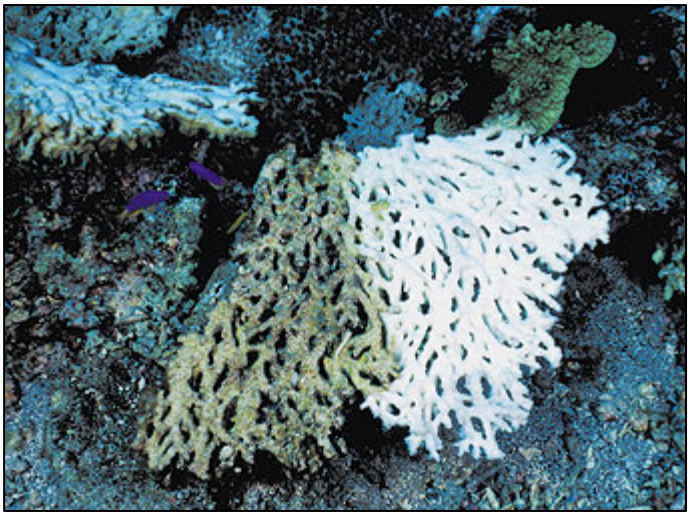
Consider for a moment the individual coral animal known as a *polyp*. Coral polyps are soft-bodied, delicate invertebrates that look a bit like minute sea anemones. In a world of biting, grazing, and nibbling neighbors, a soft and relatively defenseless body is not an asset. In the case of reef-building corals, individual polyps have developed the ability to live in colonies and to build sometimes massive and intricate communal skeletons of calcium carbonate. They do this by extracting calcium and carbonate ions from seawater and converting it into a limestone skeleton.

Over time, aggregations of a variety of coral colonies and other species can form biological structures known as coral reefs. Coral reefs become more than the sum of their individual parts, creating a home, habitat, and life-support system for millions of species. You can't help but feel dwarfed and impressed by the sheer scale of production required to produce the impressive biological architecture of a modern coral reef. In fact, the enormous Great Barrier Reef in Australia is the only biological structure that can be seen from space. Given that reef-building corals inhabit only a narrow band of tropical waters on the planet, and that these clear waters are typically nutrient poor, it's easy to see how the source of coral productivity could have perplexed Darwin.

But there's more to the coral story than meets the eye. Somewhere along the history of life, reef-

building corals began playing host to a symbiotic, photosynthetic algae called *zooxanthellae.* Existing in a mutualistic relationship with coral, microscopic zooxanthellae live in a coral's tissue, giving it its unique and beautiful color. During Darwin's time, no one was aware of the existence or important symbiotic function of zooxanthellae in the life of reef-building corals. In overly simplified terms, it's like a landlord-tenant relationship. The coral landlord provides the algae with a home—a protected environment in which to live. In return, the algae pays rent to the coral animal in the form of oxygen and waste removal. Most importantly, zooxanthellae supply the coral with the metabolic building blocks necessary to produce its calcium-carbonate skeleton at a much accelerated rate.

It has been estimated that as much as 90 percent of the organic material produced photosynthetically by zooxanthellae is transferred to the host coral tissue. This is the driving force behind the growth and productivity of coral reefs. Sometimes when corals become physically stressed, the polyps expel their algal cells and the colony takes on a stark, white appearance. This is commonly described as "coral bleaching." If the polyps live for too long without their zooxanthellae, coral bleaching can result in the coral's death. One of the best understood triggers for coral stress that results in mass coral bleaching events is that of sea surface temperatures.



Coral bleaching: When stressed, reef-building coral hosts can evict their symbiotic algal tenants. The algae provides the coral with its distinctive color. If bleaching persists, the coral animal will eventually die.
Photo by Wolcott Henry.

As a young marine biology student, I learned that corals stretch back in the fossil record to approximately 500 million years ago. The first close relatives of modern reefs as we know them evolved around 250 million years ago. The Great Barrier Reef, largest reef system on the planet, is a relative youngster. It began building about 500,000 years ago and the living Barrier Reef you dive today is only about 8,000 years old. You might imagine my surprise to discover that despite their deep pedigree in the history of life, corals are quite delicate and sensitive life forms. In fact, reef-building corals are the Goldilocks of the animal kingdom. When their surrounding water temperature is either too hot or too cold, the algal tenants within the coral may be unable to carry out their cellular metabolism and, as a result, be unable to pay "rent" to their coral landlord. The coral polyp host runs a tight ship and will evict any deadbeat algal tenants unable to hold up their end of the arrangement. Devoid of their algal symbionts, the bleached, stressed coral polyp will await new, more thermally-fit free floating algal cells in need of lodging.

So, what's the "just right" zone for corals? That depends on the coral species, but reef-building corals have evolved to survive only a narrow temperature range: plus or minus as little as 2º F from ambient conditions can create a stressful situation.

Over the past several decades, steadily increasing levels of carbon dioxide and other greenhouse gasses have been correlated to steadily increasing global temperatures, both in the atmosphere and in the oceans. Incidents of increased sea-surface temperatures as a result of human-accelerated climate change have taken their toll on coral reefs worldwide through mass bleaching events.

Tourism is the world's largest industry, and impacts from unsustainable development, as seen here in Cancun, Mexico, have taken their toll on coral reefs. Photo by Wolcott Henry.

But is it really possible that temperature alone is what's behind our current coral crisis? After all, the Earth has warmed and cooled before in the history of life and coral reefs have kept pace. And if the exciting work from the University of Miami's Dr. Andrew Baker proves successful, we may be able to develop techniques to enhance the thermal tolerance of corals by "inoculating" at-risk coral colonies with more heat-resistant strains of zooxanthellae and help them survive dangerously warming oceans around the world.

If it were simply the threat from global warming, coral reefs might be able to cope with temperature fluctuations. But coral reefs are suffering a death by a thousand cuts. When you consider coastal development, unsustainable fishing, water pollution, unsustainable tourism, rising sea levels, and the effects of increased human demand on a sensitive ecosystem, it's no surprise that nearly 50 percent of our planet's coral reefs have been functionally destroyed. And what is left is at considerable risk. A National Oceanographic and Atmospheric Administration report released this past summer indicated that half of all U.S. coral reefs are in poor to fair condition. The first-ever ecological report card for the Mesoamerican Barrier Reef—second largest reef system on the planet stretching from Mexico's Yucatan Peninsula, through the entire Belize Barrier Reef complex, along the coast of Guatemala and out to the Bay Islands of Honduras—released in November 2008 showed failing grades and painted an overall picture of a reef in danger and in need of immediate protection.

But another human-induced threat to coral health has been silently growing, and may represent the greatest challenge yet to maintaining vibrant, healthy coral reefs into the future. It's a particularly insidious threat to coral and brings us back to the story of a young Charles Darwin aboard the *Beagle* pondering how such enormous coral formations can be constructed from seawater. To understand, we need to consider some basic chemistry.

Carbon dioxide (CO2)—a byproduct of burning trees, grasslands, and fossil fuels like oil, coal, and gas—naturally dissolves in seawater to form carbonic acid, a few other compounds, and, importantly for this discussion, carbonate. Carbonate combines with calcium in seawater to form calcium carbonate, which is in turn used by marine organisms to build shells, or in the case of coral, the stony, calcium carbonate (limestone) part of the reef.

So far, so good. Problems arise, however, when atmospheric CO2 concentrations increase, leading to the *greenhouse effect*. The additional CO2 in the ocean means more carbonic acid, which makes seawater more acidic and reduces the availability of carbonate. With less available carbonate, the water becomes less saturated with important compounds used in constructing coral reefs. This increase in seawater acidity as a result of excess CO2 has been labeled *ocean acidification* [see recent *Terrain.org* article] and was first brought to the attention of the scientific community by Ken Caldeira, a chemical oceanographer now at the Carnegie Institution for Science at Stanford University.

Ocean acidification is a challenging situation for a coral polyp. As carbon dioxide concentrations increase and oceans become more acidic, the polyp's rate of construction (calcification) and the quality of its "building" (the polyp's own tiny portion of the reef and the reef as a whole) will go down. Even with coral animal and algal symbionts operating at full efficiency, a zero-sum game can be reached where rates of calcification are negated by rates of dissolution. Obviously, this is not so great for the individual coral polyp, but it is also not so great for the polyp's coral neighborhood, which in this case, is an entire coral reef ecosystem. As the problem becomes too severe, the reef may begin to erode faster than it can be built.

Lack of education and awareness on the part of tourists can result in unnecessary damage to coral, as seen here in Maui, Hawaii.
Photo by Liz Foote.

In 2004 at the 10th International Coral Reef Symposium (ICRS) in Okinawa, Japan, the global threat from acidification was perceived to be quite low among attendees. What ranked at the top of concern? Coral bleaching—which makes sense when you consider that a bleaching event is perhaps the most visible and bleak calling card for the effects of climate change on our oceans. But in just four years since the Okinawa meeting, scientific opinions have shifted considerably. This past summer, the overwhelming consensus at the 11th ICRS in Fort Lauderdale, Florida, was that ocean acidification now represents the greatest threat facing global reefs.

Where coral bleaching is an acute threat, acidification is a creeping one that builds slowly over time. Where bleaching is visible, acidification is invisible and hard to measure. And although bleaching can often kill coral colonies, acidification does not (at least in the short to medium term). Perhaps the most important difference between these two threats, however, is that adaptation by coral colonies to bleaching events is possible because as mentioned earlier, coral polyps can take up new, more heat-tolerant strains of symbiotic algae. But when coral skeletons dissolve due to lowered seawater pH, little adaptive options remain.

How do we as a biodiversity conservation community combat a threat that not only stands to

decimate coral reefs but potentially erase any vestige that they existed in the first place? Which reefs should we prioritize for protection: the strong or the weak? Do we focus our energies on the most "valuable" reefs (however you wish to characterize that word), or do we throw our energies at those reefs most likely to succeed? These are far from academic questions as they get to the heart of the issue of how limited conservation capacity should best be spent.

Even in the face of some very grim possibilities, there is still reason for hope. Promising research has demonstrated that some stony coral skeletons can undergo complete dissolution in acidic conditions, yet individual coral polyps can survive, sometimes up to a year. While the coral skeletons were completely gone, reproductive ability was maintained.

Healthy coral reefs provide food, storm protection, and cultural identity to coastal communities, such as those in Papua New Guinea.
Photo by Rick MacPherson.

The upshot is that perhaps some stony corals could potentially wait out acidification scenarios until pH can return to normal levels again. Of course, this notion of coral waiting out acidification misses the point that it's the complex carbonate reef architecture itself that supports the ecosystem. Losing coral skeletons means loss of niche space and habitat, loss of substrate for encrusting or attached life, and an overall weakened frame for future re-calcified corals to settle on.

While the ability of some corals to survive decalcification can offer some hope in worst-case scenarios of ocean acidification, our responses need to consider the larger reef complex. And of course, the best response is to not let ocean acidification get to the point of decalcified reefs, which is admittedly easier said than done.

We need to make our messages resonate not just among us "coral converted," but outside symposium walls and into the public consciousness and policymaker's awareness. We need to encourage and empower our leaders and citizens to make smart choices, make meaningful reduction in CO2 emissions, and think beyond their own lifetimes. It's not too late, but time is not on our side.

What a truly incredible testament it would be to the human species if we could say we faced this global challenge of ocean acidification—and managed to avert it. That we recognized the value of ancient, living, symbiotically-driven coral reefs as a source of food, storm protection, potential medicines, recreation, cultural traditions, and for their aesthetic value and acted as a global community to protect them for future generations.

Coral reefs have survived for millions of years. Human activities over the past century now threaten reefs with extinction.
Photo by Jeff Yonover.

Darwin's fascination with coral reefs would last a lifetime. In his 1842 work, *The Structure and Distribution of Coral Reefs*, seventeen years before publication of *On the Origin of Species*, Darwin formulated an explanation for the formation of coral atolls in the South Pacific. In his autobiography, Darwin gives us a very clear account of the way in which the leading idea for his theory of coral reefs originated in his mind from his first encounter on the *Beagle* with the enormous *brain stones* off the coast of Brazil. He writes, "No other work of mine was begun in so deductive a spirit as this, for the whole theory was thought out on the west coast of South America, before I had seen a true coral reef. I had therefore only to verify and extend my views by a careful examination of living reefs."

Though lacking all the observations needed at first, Darwin was able to correctly deduce a general explanation and understanding of coral reef formation that would allow generations of future coral reef scientists to build upon. The responsibility before us is to protect Earth's fragile, threatened reefs. In so doing, we not only safeguard an ecosystem that in turn supports us, but we also maintain an unbroken living lineage of discovery of our natural world, stretching back to a young Englishman on his first sea voyage to what will hopefully be many generations to come of young explorers who become, as Darwin describes in his introduction to *The Structure and Distribution of Coral Reefs*, "struck with astonishment, when first beholds one of these vast rings of coral."

The lifelong challenge facing Darwin was the articulation of a comprehensive coral reef theory. The challenge we face today is the preservation of the fragile ecosystem that he was ultimately able to understand—and to ensure the survival of these reefs for future generations.

What Can You Do?

Our generation holds the future of coral reefs in its hands. If we fail to act now, coral reefs and the communities and cultures that depend on them may be lost forever. If you care about coral reefs and want to make a difference, there are lots of ways you can help:

Be a Smart Consumer

- Support the health of the oceans when you shop by understanding how your purchases can impact the environment.

- Don't buy coral jewelry—harvesting of red coral for jewelry is depleting a threatened species. Also avoid coral and shell curios as home decoration. Coral looks best on coral reefs!
- Choose seafood wisely—if you don't know which fish are sustainably harvested and safe to eat, use guides that can help you make the right choice.
- Support coral-friendly businesses—know what to look for when planning your next dive trip or vacation.

Live Sustainably

- Conserving energy to reduce your carbon footprint is one way to fight the effects of global warming and lessen large-scale threats to reef ecosystems. Discover your current carbon footprint and measure your conservation success using a carbon footprint calculator.
- Take small but powerful and environmentally conscious steps like switching to compact fluorescent light bulbs, planting native trees, buying energy-efficient cars, and teleconferencing instead of flying.
- Follow the 3 Rs—reduce, reuse, recycle—to ameliorate the negative impacts of pollution and landfills on the health of our oceans.

Educate Others

- Whether you are a teacher, a student, or simply a concerned and responsible citizen, you have the ability to share your passion and knowledge with others. Because much of the visible damage to coral reef ecosystems happens beneath the surface of the ocean, many people don't realize that our reefs are in trouble, nor do they understand that this crisis will affect all of us, no matter where we live. Please help get the word out.
- Give a presentation—at your school, a club, or a house party that you host.
- Contact the media—write a letter to the editor or pitch a coral-related article in your local newspaper.

Rick MacPherson is a coral reef ecologist and director of conservation programs for the Coral Reef Alliance (CORAL), an international biodiversity conservation organization working exclusively to save coral reefs. Since 1985, Rick has worked worldwide in marine science, education, and conservation. In addition to a lifelong passion for the ocean, he has written extensively on the history and philosophy of science with a particular focus on evolutionary theory.

Article

BUILDING AND DWELLING IN THE MOUNTAINS

THE SAGE MOUNTAIN CENTER STORY

Title photo (left): Sage Mountain Center near Whitehall, Montana. Photo by Kathryn Bundy.

by Kathryn Bundy

For those who have never spent a winter in Montana's Rocky Mountains at 6,500 feet, where temperatures plunge to 40 below, the thought of passing two in a nine-foot by sixteen-foot trailer while building a few dwellings, evokes a visceral sensation of suffering.

When Californians Christopher Borton and Linda Welsh found 90 acres bordering Beaverhead-Deerlodge National Forest near Whitehall, Montana, they parked a trailer, dug in, and began to realize their dream of building what has become Sage Mountain Center. The buildings are a combination of cordwood and straw bale, powered off-grid by the sun and wind.

Sage Mountain earned its name because of the ubiquitous sagebrush that the young couple tried to eradicate from the site by dragging a mattress around behind a pick-up truck. After crushing the resilient bushes within a circumference of their future cordwood and straw-bale buildings, they had auspiciously spread a carpet of seeds that sprouted into five times the number of bushes they intended to eliminate. Though the couple was only trying to clear building space, they realized early on that they were merely one of many species either visiting or rooting at the site.

Linda Welsh and Christopher Borton founded the Sage Mountain Center in 1990.
Photo by Kathryn Bundy.

The builders had all along considered the creatures with which they'd be sharing the property. In fact, Welsh says they "thought about what animals use to build shelters at 6,500 feet and went from there." They have no dogs so as to encourage the wildlife in their habitat as much as possible.

Borton and Welsh built the center from the surrounding trees, earth, and straw first to teach themselves the basics of building sustainable, off-grid structures. They have since become trainers for hopeful owner-builders who intend to design and build their own cordwood and straw-bale homes. As a consultant, Borton now travels around Montana as well as conducts seminars on the mechanics and day-to-day operations of drawing solar and wind energy to power daily needs.

The center grew out of experiments with cordwood from trees they felled, "slash" limbs that had been cut from logged trees and left lying about, soil, and some cement. Beginning nearly twenty years ago, they felled 140 lodge-pole pines after the forest service issued them a permit for $70—often managing seven- to eight-foot sections of wood from single trees. They used the slash for structural beams as well as for creating unique furniture, stair railings, and doorframes. Because moisture evaporates quickly at that altitude, the readily found pine, fir, and aspen were well-preserved.

While the detritus left from logging in the 1970s and the forest service's fire-suppression practices have created a tinderbox, the couple began practicing forest restoration by cleaning and thinning particular sections of the property. They then seed with native grasses in the spring after having a fat stack of wood for the stoves all winter.

The Sage Mountain Center entrance displays the mix of lodgepole pine and cordwood wall that is decorated with bottles to allow the passage of light.
Photo by Kathryn Bundy.

At the center, timber frames the main building, whose north and west walls are straw-bale infill with an insulation value of about R-40. R-value is a material's measure of resistance, per inch, to heat flow. At its best, straw bales measure about R-2 per inch when a bale is placed on its side in the wall, averaging about 20 inches in width. The south and east walls are cordwood, at R-25, with an interior eight-inch bed of sawdust. Positioning cordwood in the south wall—along with the thick layer of insulation—creates a high thermal mass that stores energy "like a battery" throughout the 24-hour cycle of large fluctuations in temperature, says Welsh.

Earthen plaster covers interior and exterior straw-bale walls and serves as a mortar between pieces of cordwood. The builders mixed it from surrounding topsoil, as well as sand and cement, to increase

durability against the harsh climate. Mixing the plaster "mud," which many call it, demands much from builders, who must move quickly while it is wet. Welsh and Borton did what they could to time the need for mud mixing with visits from friends. But for the most part, the two did most of the building themselves.

They poured cement floors, which are heated with in-floor hydronic radiant heat. Water heated from a combination of sustainable methods courses throughout the floors that are also warmed from the sun that passes through south-facing walls averaging 50 percent glass.

The warm, late August day I visited Sage Mountain Center, the temperature had dropped to 19 degrees the previous night. Linda said they often experience four seasons in a day, and it was especially true then, as the next day's temperature climbed into the 50s. As Borton described the two winters he had spent in the trailer while beginning the project, the dedication and perseverance was palpable. Sharing a trailer with exploding cans of food as the temperature plunged and feeling pressure changes as if in a diving submarine, Borton drew on his training as a Catholic Monk years before. He likewise had to remember the winter while assembling cordwood walls, laying insulation, and mixing mud in 95-degree, fly-biting heat. The urge to reduce the amount of insulation was strong, causing him to repeat a "remember 40-below" mantra. The couple had to design efficiency into the building at every turn.

Sage Mountain's energy feeds from a combination of solar and wind power, which, along with wood-burning stoves in the winter, heats the center's air and water and powers the electrical appliances. The structures consist of the main building, where they conduct classes, a one-and-a-half story guest cottage, and a one-room cottage, named Tilting Tree Cottage due to the angle of a large nearby tree.

The south-facing wall of Sage Mountain Center contains about 50 percent glass to capture the sun's heat in chilly Montana winters.
Photo by Kathryn Bundy.

A friend from California, Warren Hill, serves as the caretaker and lives upstairs in the guesthouse. The day I visited, Warren was stripping bark from cut trees intended for an upcoming cordwood project.

While the center is beautifully crafted, careful attention to the use and circulation of energy creates a more organic structure than the typical home that Americans have taken for granted. Today's owners and builders rarely factor the site, terrain, and climate into the construction of most buildings or homes, which are designed to be plopped down, plumbed, and wired into the grid to draw on centralized water and power. In their book *Building Green*, builders Clarke Snell and Tim Callahan concisely describe the typical, manufactured American home as one that is diseased: as if on a life-

support system, the archetypal home in the United States is one that is hooked up to the grid that supplies heat, cool air, electricity, water, and light. It can be built—or assembled—in nearly every environment, regardless of site criteria, with materials trucked in from around the country.

The philosopher Martin Heidegger described *dwelling* as a basic element of our humanity. We *build* in the sense of cultivating the surrounding earth so that we may dwell, which is the primary way to connect with our environment, not overtake it. Before building Sage Mountain, Borton and Welsh considered all the siting criteria, including the region, climate, altitude, drainage, sun, and water availability.

A percussionist as well as a former figure skater, Borton comes from three generations of builders. To hear him describe the renewable electric system that runs through what he calls the energy "heart" of the main building is to hear multiple generations of builders in one—clearly focused on fusing old and new technology.

Borton and Welsh designed the inside of the one-room cottage for ultimate efficiency and light.
Photo by Kathryn Bundy.

As Borton tells it, the energy heart of the building is "like the hara of the body," the center of gravity in a person, from which energy emanates throughout the organism. The main control center, or "heart," contains what he calls the circulatory, nervous, and digestive systems. Water circulates throughout the main house through plumbing that connects from the solar hot-water panels on the roof to a storage tank housed in the "heart." From the tank, heated water is plumbed to showers, sinks, and floors in an open loop that also includes the hydronic floor heat. Should the solar panels be unable to heat the water enough during winter, a backup tankless propane water heater is ready for on-demand needs, much like a pace maker is used only when necessary.

Additional water-heating help from a greywater heat-recovery system strategically funnels warm greywater through separate plumbing into a buried 55-gallon tank. The tank's plumbing houses fresh water separately, which the used water warms about five to seven percent, reducing the amount of electricity required to bring it up to temperature in colder months. Though five to seven percent may not seem like much, it counts when synchronizing multiple systems throughout the day.

After preheating fresh water in summer, the greywater flows to the outdoor wetlands. In winter, it runs into a septic system. This "digestive system," as Borton calls it, keeps nutrients within the Sage Mountain ecosystem. It stays on the mountain. Human waste is methodically turned into compost outdoors at regular intervals after resting in sawdust in hand-made composting toilets for a period of months. Though the job of turning human waste into compost sounds repellant, it actually rests long

enough for the bacteria to break down the waste into compost.

Borton says that composting the "humanure," what the couple calls the compost, "is slow, taking about one year to complete the cycle."

The electrical, or "nervous," system runs from the sun through photovoltaic (PV) modules with a tracker on the roof, and from the wind through an 85-foot-tall wind generator. The generator, which pulls in about 25 percent of the center's power, begins cranking when wind blows at seven miles per hour, reaching peak power at 24 mph. Batteries, which are inverted from low-voltage DC power to higher-voltage AC power, store the energy. The center consumes about 5,000 watts of electricity per day, about one-fifth of that of the average American home, and it uses only about one-third of the total renewable electricity supply that its sources generate.

To warm the air, Borton and Welsh designed an efficient system that partly mimics the way a human's skin and lungs absorb sun and oxygen that then circulates throughout the body. They strategically placed thermosiphoning air panels (TAPs) to draw in cool air and warm it before it flows into the house. The vents in TAPs pull in outside air that the sun then warms before it flows out of top vents into the house. In the guesthouse, a roof TAP passively preheats water in a tank for showers, and strategically placed water coils in the wood-burning stove ensure water is hot.

Well-preserved wood from the Sage Mountain Center site serves many functions, such as this handrail.
Photo by Christopher Borton.

Welsh is a registered nurse with an M.A. in transformative learning and change, and they are both yoga instructors, and so offer a range of seminar courses on physical health and sustainable living. Welsh is also steeped in the philosophy of deep ecology and in their twenties, the couple found inspiration for their venture from the early-twentieth-century natural builders, Helen and Scott Nearing.

"Knowing that one other couple has done it made it easier," says Borton.

He is referring to the Nearings' decision during the Great Depression to move from New York City to rural Vermont, where they built stone dwellings and lived sustainably for 60 years. They educated visitors on living much more simply in what became known as the "back to the land" movement. Today the Nearing's Vermont buildings have become a museum of sorts, modeling the methodologies that have inspired people for two generations.

When Welsh speaks of how she and Borton learned to build their center, she reiterates what many experienced owner-builders say—that, depending on the structure and climate, building a dwelling literally from the ground up requires careful planning, reading lots of books, the willingness to start small and experiment, and the ability to adapt and learn from mistakes.

Salvaged wood stool crafted by Borton and Welsh.
Photo by Kathryn Bundy.

Welsh says "they broke it down and started small. We experimented with smaller buildings with plumbing, electricity, and cement floors before building the main building."

As Borton was researching how to build a sustainable septic system, he found only scant mention of the greywater heat-recovery system in an article. He spent ample library time gleaning what he needed to build it. And then plan. The two builders created fairly detailed five- and ten-year plans to get to where they are. Their next goal is to grow as much of their own food as possible. They're planning a year-round greenhouse, which, according to Welsh, "has great potential because of the strong, nearly constant sunlight."

In the building of their current structures, Welsh and Borton never used any heavy equipment for lifting. Welsh says she "learned a tremendous amount about how women adapt to build what has traditionally been built by men. Because so many of the basic tools have been essentially designed by and for men, women friends who came to help build had to find their own systematic—self-organizing—methods of teamwork to lift heavy materials or synchronize efforts by each taking on a different task. It was amazing."

The current economic meltdown, and specifically the housing-market crash that is casting thousands of homeowners out of their homes, gives owner-builders an additional, acute reason—on top of climate meltdown—to consider building sustainably. Much like the illusion of security that became endemic throughout the home-financing world during the first decade of the 21st century, the buildings in which we typically spend vast amounts of time do not meet the basic needs of the surrounding ecosystem. And such a statement in itself leads to the question what does *sustainable* mean?

A word with multiple meanings—yet often used in tandem with *development* and *growth*—often implies that we consume when we develop sustainably. But what of the give and take? We cannot help but consume; the question is how much—and the degree to which our existence in the surrounding environment resembles something closer to co-habitation than parasitic behavior.

Sage Mountain's idyllic quality is easily apparent in late August, with the scent of sage and pine

filling the air, both inside and out. Even when winter temperatures slide well past frigid, the PV panels and recycled glass windows heat with abundant sun, allowing a person to experience the raw side of the mountain from a sheltered spot, devoid of exploding cans of food. And the elk can chew the tree bark, coyotes can hunt the mice, and badgers can forage for roots and eat insects.

Cordwood / Straw Bale Construction

Straw Bale Basics

- Generally, a local supply of straw exists, depending on the locale, keeping money circulating in the local economy, thus reducing transportation costs and energy use.
- Straw is often burned, so using it reduces the amount of CO2 emitted into the atmosphere.
- As a quickly renewable source, straw can be harvested every year.
- It is best purchased immediately after harvest and stored in a dry, well-covered location until it is used; see actual bales to ensure they are dry and free of mold (moisture meter should monitor less than 14 percent water content).
- Ensure bales are of uniform size and tightly bailed.
- Cereal grains (wheat, rye, barley) are best for bales; alfalfa is not sturdy enough.
- An excellent insulating material, straw bales are thick, ranging from about 14 to 24 inches, and depending upon how they are stacked (on their side or standing up) their R-value varies from about R-28 to R-40.
- Bales are either stacked within a post-and-beam structure, or they are load-bearing (also called monolithic), in which the bales themselves bear the burden of the structure, including the roof.
- Load-bearing bales are tricky, as a lack of proper planning or building techniques could leave the structure unstable; it is important to ensure the roof does not compress the bales.

Cordwood Basics

- Cordwood is often available locally, reducing transportation costs.
- Be sure to use clean, seasoned, and barkless wood that is not infested or rotting, and is stored in a dry location.
- The best choices, especially for wet climates, are poplar, cedar, and pine, which shrink the least.
- Hardwood requires extra protection, such as plaster coating, in wet climates.
- Cob masonry used between pieces of wood has less embodied energy than mortar, but the cement in mortar provides more protection from the elements.
- Cob is a mix of clay, water, and sand.
- Mortar is a mix of sand, lime, soaked sawdust, and Portland cement; adding water-soaked sawdust to mortar makes it more insulative and helps it adapt to weather changes.
- Sawdust or vermiculite insulates between the wood in the walls' center, helping the R-value, which can be up to about R-25.

Siting and Design

- Site away from where water either collects or runs, and use the natural environment as much as possible as protection from the harshest elements (trees, hill).
- Solid design and wide overhangs ensure water does not run down walls.

Water

- Water damage can easily occur if structures are not carefully sited, designed, and built.
- More protection is required in wet climates, such as using cement in earth plaster used on walls.
- Seal straw bale walls with silicate paint to prevent rot while maintaining vapor permeability.
- Linseed oil waterproofs cordwood ends but allows vapor permeability.
- Plaster interior and exterior of straw bale walls for protection and durability.
- Ensure walls are hygroscopic — that they allow water vapor to pass through — or trapped water will cause damage; use permeable plasters (earth, lime).
- Higher foundation walls and sill plates help protect from water.

Straw bale home photo by Nathaniel Corum, courtesy University of Texas at Austin School of Architecture. Cordwood home photo by Andrew Lund, courtesy Home 'n Stead.

Kathryn Bundy is a freelance writer living in Ohio who just completed *The Complete Guide to Alternative Home Building Materials & Methods*. She has been a community organizer, working with people to develop democratic authority on sustainable food and energy issues.

Article

Muir Woods National Monument
William Kent's Progressive Vision

All photos — giant redwoods at Muir Woods National Monument, Marin County, California — by Antonio Vizcaino.

Text by Tom Butler
Photography by Antonio Vizcaino

Imagine, for a moment, the word *beautiful* spoken in German and Japanese, Portuguese and Korean, and a half-dozen other languages as well, mixed with the rustle of trickling waters and a winter wren's ebullient song. That, or something akin to it, is the sound of Cathedral Grove on a typical day. The language of beauty may vary, but the response to it seems universal—at least in Muir Woods National Monument. Across the bay from San Francisco in Marin County, California, the monument attracts pilgrims from around the world who converse in hushed tones, faces craned upward to the light slipping down through the forest canopy. The towering redwoods stand mute unless a breeze ripples their branches, their scale dwarfing all other life around them. For people unaccustomed to the immensity of redwoods, they seem otherworldly.

It is right that we should gaze upon them with reverence, for coast redwoods have achieved a kind of immortality; their kind has grown on Earth for 250 million years, and some individual redwoods alive today were saplings long before a famous Jewish prophet was born in Bethlehem. Through twenty centuries and more they have welcomed the cool, moist weather of the northern California coast. No other living thing on Earth reaches greater heights. Along with their shorter but more

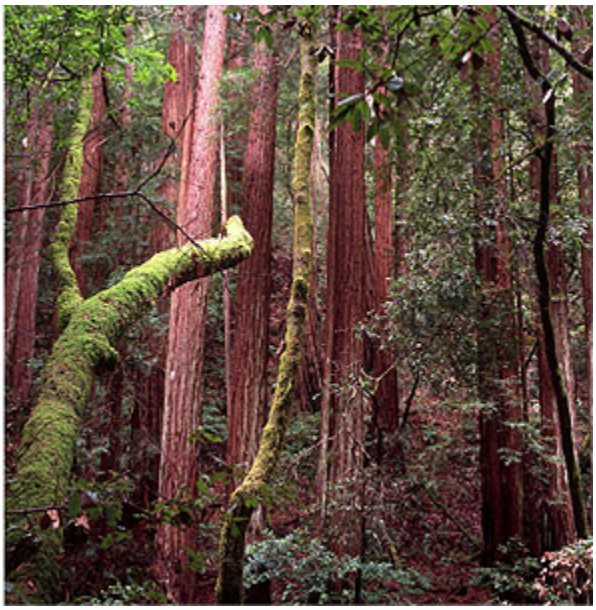
massive cousins, the giant sequoias of the Sierra, coast redwoods are the titans of the arboreal world, with many individuals exceeding 350 feet tall. (The tallest tree in Muir Woods is a relatively diminutive 258-footer, comparable in height to a twenty-six-story office tower.)

But as ecologist Reed Noss has written, "A redwood forest is more than just big trees. From the bewildering variety of life and past life (e.g., woody debris) on the forest floor to the intricate community of fungi, lichens, liverworts, vascular plants... earthworms, millipedes, mollusks, insects, and salamanders tens of meters up in the redwood canopies, the redwood forest is a complex ecosystem." Preserving that complexity was not the first priority for European-American settlers to the redwood region, a narrow band of suitable habitat roughly thirty miles wide that stretches five hundred miles along the Pacific coast from the southern tip of Oregon down to Monterey County, California. Summer fog rolling off the ocean and winter rains grew towering trees that produced straight-grained, easily workable, rot-resistant—and therefore highly valuable—timber. While much of the region now supports second- and third-growth redwoods, less than five percent of the structurally complex, old-growth redwood forest survives, making it an endangered ecosystem.

At just 554 acres, Muir Woods National Monument is a relict and reminder of that original, unlogged forest. This small natural area has a big job, beyond even its role as sanctuary for the last ancient redwoods of the San Francisco Bay Area, which initially were spared from logging because the site was difficult to access. More than 700,000 people visit the monument each year. They walk the trail along Redwood Creek enjoying the great trees and occasional splashes of color, a Pacific trillium perhaps, or Oregon oxalis, on the forest floor. In a virgin redwood grove only diffuse light typically reaches the ground, but where a tree fall has opened a gap in the canopy, some visitors stand in a warm shaft of sunshine listening to a park ranger explain life and death among the redwoods. They hear how these thousand-year-old trees are mere youngsters for their kind, how the species reproduces from seeds and root sprouts, how a redwood's bark is exceptionally thick and fire-resistant.

Besides being a preeminent institution for interpreting the redwood ecosystem, Muir Woods is also a useful port of entry into conservation history, for its creation included several key actors, among them naturalist John Muir, President Theodore Roosevelt, and William Kent, a forward-thinking California congressman who would later help create the National Park Service.

Born in Chicago in 1864 to an affluent, politically active family, William Kent moved to Marin County as a boy. Typical of his social class, Kent was educated in private schools, and attended Yale University before starting a business career in Chicago. Like Teddy Roosevelt, Kent was an avid sportsman, owned a ranch in the West, and became a political reformer. While on the city council and as president of the Municipal Voters' League of Chicago around the turn of the century, he opposed corruption and advocated for city parks. Returning to Marin County, Kent established himself as a prominent civic force and was elected to Congress, where he served three terms, from 1911 to 1917. During his first campaign he ran as a Republican; during both reelection cycles he ran as a progressive Independent.



In 1905 William Kent and his wife, feminist Elizabeth Thatcher Kent, purchased 611 acres of wild forest on Mount Tamalpais, in Marin County. Kent wanted to preserve the stand of unlogged redwoods, but also had considerable business interests in the area. After the great San Francisco fire of 1906, a private utility offered to buy part of the land with the intent of damming Redwood Creek to create a water reservoir. When Kent refused to sell, the North Coast Water Company started eminent domain proceedings.

Capitalizing on the postfire political climate, in which new infrastructure was considered a pressing social need, the developer sought to profit from the virgin grove's timber value as well as to create a local water monopoly. Kent saw the attempt to seize his property as both a threat to the land and bad legal precedent, and politically outmaneuvered his adversary. Knowing that under the 1906 Antiquities Act the president could designate national monuments around "objects of historic or scientific interest," Kent decided to save the forestland along Redwood Creek by giving it away. On the day after Christmas in 1907, he mailed a deed for 295 acres, including the area coveted by the private utility, to the secretary of the interior, and asked that President Roosevelt declare it Muir Woods National Monument in honor of the famous writer and wilderness champion. A few weeks later, Teddy Roosevelt did so. The reservoir scheme was foiled. The redwoods were saved.

President Roosevelt sent a letter thanking Kent "most heartily," and suggested that "all Americans who prize the undamaged and especially those who realize the literally unique value of the groves of giant trees, must feel that you have conferred a great and lasting benefit upon the whole country." He also expressed admiration for John Muir, with whom Roosevelt had gone camping in Yosemite a few years previous, but offered that perhaps the new national monument should be named for Kent, as he was the land's donor. In his reply, Kent demurred, saying, "So many millions of better people have died forgotten, that to stencil one's own name on a benefaction seems to carry with it an implication of mandate immortality, as being something purchasable."

"By George! you are right," the president responded. "It is enough to do the deed and not to desire, as you say, to 'stencil one's own name on the benefaction.'" In corresponding with Muir about the new protected area, Kent wrote, "I know the dreams we have will come true and that men will learn to love nature. All I fear is that it may be too late." Muir replied with effusive thanks: "This is the best tree-lover's monument that could possibly be found in all the forests of the world. . . . Saving these woods from the axe and saw, from money-changers and water-changers and giving them to our country and the world is in many ways the most notable service to God and man I've heard of since my forest wanderings began.... Immortal Sequoia life to you."

Muir and Kent's mutual admiration would suffer a few years later when they found themselves on opposite sides of the conservation movement's defining early battle—the fight over damming the Tuolumne River within Yosemite National Park to create the Hetch Hetchy Reservoir as a water source for San Francisco. On this proposed water impoundment, Congressman Kent was a key booster, along with the chief of the U.S. Forest Service, Gifford Pinchot. John Muir, who extolled Yosemite's glories to a national audience through his writings, was bitterly opposed. The rhetoric was heated: "These temple destroyers, devotees of raging commercialism, seem to have a perfect contempt for Nature," Muir railed, "and instead of lifting their eyes to the God of the mountains, lift them to the Almighty Dollar." Kent, in turn, characterized Muir as "a man entirely without social sense. With him, it is me and God and the rock where God put it, and that is the end of the story."

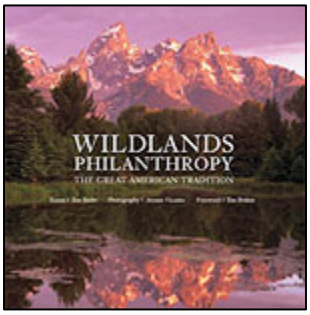
The battle over Hetch Hetchy raged for years, and cleaved the nascent movement into camps: utilitarian conservationists, such as Pinchot, who stressed the "wise use" of natural resources, and preservationists, personified by Muir, who extolled the aesthetic and intrinsic value of wild nature, regardless of utility to humans. Hetch Hetchy was the last great campaign of Muir's conservation career, and life. When Congress gave final approval in December 1913 allowing the dam builders to proceed, Muir was beaten. His health declined, and by Christmas 1914 the great wilderness advocate was dead.

Even as the conservation community fractured over Hetch Hetchy and other issues, the various societal impulses toward nature protection and social progress seemed to find some accommodation in the person of William Kent. After the fight was won to desecrate Muir's sacred Yosemite temple, Kent helped pass legislation creating the National Park Service. (Until that act's passage in 1916, the roughly thirty national parks and monuments that been designated had no single agency to administer them.) Ironically, supporters of the park service bill plotted strategy in Kent's Washington, D.C., home just a few years after Hetch Hetchy supporters had gathered there to chart their campaign to despoil a wild canyon in Yosemite National Park.

Kent's preservationist side was later ascendant when he made an additional donation to Muir Woods in 1921, and when he advocated for the whole of Mount Tamalpais to become a national park. That effort foundered, but Kent and others succeeded in protecting the area as Mount Tamalpais State Park, spurred in part by another gift of land from the Kent family.

Today, Muir Woods National Monument and adjacent state lands on Mount Tamalpais form a roughly 7,000-acre wild sanctuary in the heart of a cosmopolitan urban setting. For the millions of past visitors and millions of future visitors to this redwood cathedral, it is a cross-cultural exporter of wild beauty. Of that legacy, even John Muir would be proud.

"Muir Woods National Monument: William Kent's Progressive Vision" originally appeared in *Wildlands Philanthropy: The Great American Tradition*, essays by Tom Butler, photography by Antonio Vizcaino, and foreword by Tom Browaw (Earth Aware Editions, 2008). It is reprinted with permission.



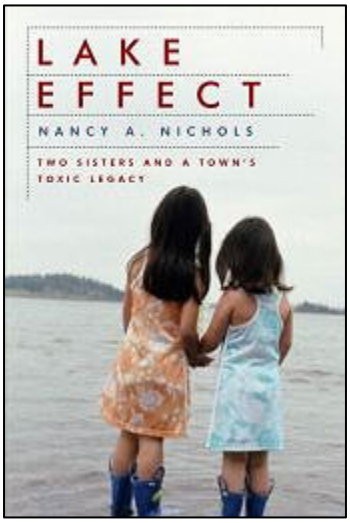
In *Wildlands Philanthropy,* veteran conservation writer Tom Butler and world-class landscape photographer Antonio Vizcaíno take readers on a tour of natural landmarks from Alaska to Tierra del Fuego and around globe. With more than 350 pages, 170 color photographs, and a large-format design, *Wildlands Philanthropy* is a book grand enough to tell the inspiring stories of people who saved extraordinary places.

Tom Butler is the editorial projects director for the Foundation for Deep Ecology, and a long-time conservation activist focused on wilderness and biodiversity. He is a founding board member and current vice president of the Northeast Wilderness Trust, the only land trust in the northeastern United States focused exclusively on protecting forever-wild landscapes. His book *Wild Earth: Wild Ideas for a World Out of Balance* collected essays from the conservation journal Butler edited from 1997 to 2005.

A professional nature photographer, editor, and conservationist, **Antonio Vizcaíno** uses beauty to help foster a new culture that respects the value of nature. A Mexican citizen but full-time world traveler, he studied at the International School of Photography in New York, and over the past two decades has published twenty books. He is co-founder of America Natural, a conservation organization that employs landscape photography as its primary means of communication. In 2001 he launched an ongoing expedition to photograph outstanding natural areas from Tierra del Fuego to Alaska. By contributing these images to environmental education campaigns, Vizcaíno seeks to increase protection for the extraordinary biodiversity of the Americas.

Review: One Fish, Two Fish, Bad Fish, Sick Fish

Stephanie Eve Boone reviews *Lake Effect: Two Sisters and a Town's Toxic Legacy*, by Nancy A. Nichols



In Nancy Nichols' hometown of Waukegon, Illinois, locals give out directions to industrial waste sites the way other townspeople would give directions to a nearby tourist destination. I live in western New York, and I often tell drivers looking to take the Rainbow Bridge to Niagara Falls, "Just go west on 104." A Waukegonite, just as casually, says, "Asbestos to the north; PCBs to the south." Oh, and don't forget about the Superfund site just past Wendy's Olde Fashioned Hamburgers.

So when, in a scene near the end of *Lake Effect: Two Sisters and a Town's Toxic Legacy*, Nichols' husband asks her, "Can you prove that these chemicals caused either your sister's or your cancer? I mean, really, can you prove this?" both narrator and reader are taken aback. Nichols has spent the past fifteen years, and 120 pages, trying to make this very connection. With a lucid, detailed, well-researched argument, she's pretty well convinced her reader. But her husband spent years as a federal prosecutor, and for him the word "proof" conjures up a different set of rules than those required for a book. The courts, unfortunately, are not always receptive to nuance. He knows that as abundant as her research is, she lacks *hard* evidence. "My argument is not a simple or straightforward one," she confesses. "There is no smoking gun… I have made an extended argument that rests on the weight of the evidence in its entirety… all sorts of data pieced together in an elaborate web."

But "there are different stands for proof depending on the venue," and Nichols isn't trying to sue anyone. She's a storyteller, not a plaintiff. And even if she were going to file a lawsuit, where would she start? Waukegon's most notorious polluter, the Outboard Marine Corporation, declared bankruptcy in 2000. And who's to say the toxic PCBs that likely disrupted her endocrine system didn't come from one of the ten dozen other factories that called Waukegon home during her childhood? *Lake Effect*'s title refers, nominally, to the heavy snows dumped on areas surrounding the Great Lakes. In Nichols' book, the phrase is given two additional meanings: the effect, on the lakes, of direct dumping and gradual pollution by short-sighted corporations; and the resulting health effects, almost always negative, on the wildlife and people who use the lakes for food, water, and livelihood.

Fish is supposed to be good for you. If you have a little patience, a fishing pole, and a bucket of worms, proximity to water means a free source of protein and Omega-3. But the salmon young Nancy and her big sister Susan ate frequently (even for breakfast) contained PCBs in rates 1,540 times today's legal limits. Should we be surprised that both women developed distinct, obscure

cancers in their forties? In Susan's case, the illness was fatal, and the deathbed promise she extracted from Nancy led to the writing of this book. Nancy barely escaped because of the frequent cancer screenings she went in for after her sister's death; she watched out for cancer with an obsessiveness you might call hypochondria if it hadn't saved her life.

Most of all—beyond even honoring her sister's final wish—Nichols uses this book to take a stand against complacency over pollution and illnesses. In a meditation inspired by fellow cancer survivor Lance Armstrong, she challenges the modern-day survivor narrative. While rightly encouraging cancer survivors to fight, fight, fight, she says, the cultural mindset around cancer ignores its *causes*. "If we keep warring, winning, and walking, we and others around don't have to stop and ask: What made her sick? [W]ithout taking anything away from the curable cases… the superstar cancer-patient image is simply a new kind of invisibility" she writes.

Nichols provides more detail than I have room for here about the relationship between genetics, pollutants, and illness. My high-school English teacher told us that our compositions should be "Like the length of a woman's skirt: long enough to cover the subject, but short enough to keep it interesting." Nichols' book hits that standard with a bullet. Readers usually daunted by stilted scientific writing (I'll include myself) should find this a welcome introduction to ecological literature. A journalist, Nichols writes with the ease, clarity, and authority of a woman who knows not only her material, but the importance of making it accessible to a wide audience. And she writes with the passion of someone who has watched cancer ravage her family—and doesn't want it to ravage yours. She even has this crazy idea: "Environmentally related cancers and other diseases do not have to be an inevitable outcome of modern life."

Lake Effect: Two Sisters and a Town's Toxic Legacy
By Nancy A. Nichols

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2008
ISBN 1597260843

Stephanie Eve Boone, *Terrain.org's* reviews editor, has contributed to *American Book Review*, *The Buffalo News*, *Sonora Review*, and *The Journal of Popular Culture*, among other publications. She earned an MFA in creative writing from the University of Arizona in 2007. Stephanie teaches college writing in the Buffalo area; she currently lives in Lewiston, New York, with one cat and two artificial plants.

Review: In Bloom

Simmons B. Buntin reviews *Lit Windowpane*, poems by Suzanne Frischkorn

"Forgive me. I can't name the scarlet birds / that dart through the bramble," begins one of the poems in Suzanne Frischkorn's *Lit Windowpane*. But we don't believe her. After reading the poems in the collection, we are convinced that Frischkorn can name the birds, the plants, the clouds, and the galaxies beyond:

Forgive the incantation of crickets among burrs—
to each star and one moon.

Not only can she name them, but as *Lit Windowpane* proves, she can weave them into an intricate garden of words at once delicate and dangerous, elegant and enduring. Indeed, this poem, titled "A Friend Asks, What's to Forgive?" ends:

and forgive the catmint,
the cosmos, and the black-eyed Susans,

for their tenacious grip on dry earth.

The result of the poet's ability to name things is placing the reader inside the poem, especially through imagery. And Frischkorn's imagery can be stunning:

Dusk rubs its thumb
along the horizon

(from "Puccini at Dusk")

or:

Listen as the flute of leaves grows
quiet … the sky, a split of quartz

and mica, of greisen.

(from "Freshwater Notecards")

But not all of the poems are so airy. Just as often, they wrap around and within us like the tendrils of a flowery vine, becoming visceral, guttural even. Take these lines from the prose poem "Paean," for example:

I believe I'm a pagan after discarding my garden gloves and plunging my hands in anthracite, rich, loamy soil.

I believe lacquer is a coat of lies, no one touches me like you do and when your hand is deep inside me you can feel earth itself.

Regardless of the elemental source—*Lit Windowpane* is full of earth and air and water—each poem settles over us like a fine dew—not suffocating, but synaptic and oddly comforting.

Yet as we revisit the poems, we come to realize that much of their allure lies also in how they converse with each other and the larger body of poetry. Some are direct responses: "The Mermaid Takes Issue with the Fable," Frischkorn notes, was written in response to Pablo Neruda's "The Fable of the Mermaid and the Drunks."

But many respond based simply on their placement next to other poems. The first dozen or so work almost as diptychs, the poem on the left triggering the poem on the right, or vice versa. Often the poems' titles clue the relationship—"Youth Drowns in Housatonic River" flows across from "Naugatuck River Valley, Connecticut" while "Watermark" counters "Freshwater Notecards"—but in each case the verse truly completes the connection.

"I am the river and the river / is contaminated," Frischkorn writes in "Youth Drowns…," while "Naugatuck River Valley…." begins "How long it takes the river to come clean."

The approach is subtle yet playful, and sets the tone for the parallels of light and dark found throughout the book, parallels reflected in the book's title as well as the window and windowpane references throughout.

Many of the book's 45 poems are brief, reminiscent of Eastern Asian poetry. For example:

Crone

Ashes
under
pear
trees

return
by
white
blossom.

I find myself absolutely smitten by these shorter poems. Their images, mysterious beckoning, and sometimes wispy lines stay with us long after reading. Another splendid example:

Chime

streaming.
Lilies-of-the-valley—those
poisonous beauties, their delicate

bells.

The poems also converse directly with the reader. "Samhain," for instance, begins, "And did you think you would live forever?" while "I came in the tavern totally naked, that's true," is the first line of "The Mermaid Takes Issue with the Fable."

These are conversations that, like the imagery, invite and place us deep within the poem. We are not certain whether we seed the poem, or the poem seeds us—either way, it is an alluring enigma.

Suzanne Frischkorn's *Lit Windowpane* is as charming, inviting, and mysterious as a secret garden. Beyond the open gate we find that each poem calls like a favorite flower. We find ourselves returning to admire them often—and like the poems, we bloom.

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By Suzanne Frischkorn

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