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Encompassing: Notes from New Mexico

by

John Bateman

B.A. Vermont College, 1997

presented in partial fulfillment of the requirements

for the degree of

Master of Science

The University of Montana

May 2005

Approved by:

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Chairperson

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Encompassing: Notes from New Mexico

Chairperson: Phil Condon PC

I grew up in New Mexico, an Anglo kid from an average middle class family. From an early age I saw that my home, Santa Fe and the entire region, was a special place—a place of high mountains and desert canyons, sagebrush plains, piñon forest, and a long and varied history stretching back through United States, Mexican and Spanish periods into the farthest reaches of prehistory, the earliest times of the Pueblo Indians. As with all places, New Mexico is comprised of peoples' stories. My early recognition and fascination with the spot on Earth I felt lucky to call home opened into a need to learn its stories, and to wondering how my own evolving story fit into the rich and varied New Mexico I came to know.

What follows are some of those stories, both mine and those of other people, as I have encountered them, and presented here with as much understanding as I could muster at the time. Throughout these writings—some comprised of collections of scenes, images and vignettes, others more formal essays—are certain themes that I find troublesome, haunting even. As a writer, I find myself most often drawn to subjects that bother me, the parts of experience where answers aren't easy to come by. The legacy of the atomic bomb and Los Alamos, visible from Santa Fe, is one of the problems I have long struggled with. Another, perhaps related, is the tension and contrast between beauty and violence that New Mexico so often embodies. While I may not have many answers, contained in a few of the stories I've gleaned are a good many questions.

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News of the World

It's the moon that gets me. And the crosses, shining in the final light. I'll try to tell you why.

This is my New Mexico. I am what they call an Anglo but I can drive along eighty-four and the lower Chama and know every curve. I am doing that, driving a shitbox Toyota Camry I bought from a friend who'd finished with it, the bottom dragged and bashed to hell from hauling rocks in what for normal people is a family car, and it's a yellow, glowing afternoon in late May, the wide sky a pattern of scattered cloud bellies buoyed to the lowering sun. I am driving home to a one-room adobe casita I rent in the

town of El Rito, two small gardens and a chicken house scooped out from old alfalfa fields, and the car is sliding around curves in the sinuous road, climbing through a red rock cut past Ghost Ranch and across the wide stretch above the grayblue reservoir. Think of ghost-form cottonwoods tracing the old riverbed, their limbs waving gently with the movement of water five hundred feet deep. Above the lake, the squat, square-topped Pedernal, mountain of obsidian. A mile farther the highway breaks through a cleft in the rim rock and descends, pinned to the cliffside. Here, the muddy Rio Chama curves sharp, almost doubling back on itself, the dark basaltic ridges rolling down to the river's edge and the cottonwood bosque hanging on amid the flood of tamarisk and Russian olive.

I pull over and look out east over the town of Abiquiu and see the mountains, the Sangre de Cristo, sharp lined against the distant horizon. The horizontal sun softens the foothills into folded relief. I can see this a million times and still long to touch, to be big enough in the heart to reach out across the valley through atmosphere captured in loving sun and touch, put those mountains inside, climb inside of them, their beauty. My heart and this place are the same landscape, steady, and whatever pain inside flows away into all of it. In this place, I can't imagine another.

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An image. On my desk, a postcard photo of a high valley bordered by mountains, sere foothills, a scrim of clouds. In the close foreground, low-growing

clumps of sage cover a gentle downward slope before a scattering of maybe half a dozen buildings, a church. Atop the church, a white cross rising from a cupola on the far side and, on close inspection, the tip of the pyramidal, metal-roofed cupola itself. To the right, before the other houses, a wire fence encloses the graveyard, or *campo santo*.

Not a soul is in evidence, but, I imagine, we are all there.

Behind the town, trees, a couple of large cottonwoods, and the broad canopies of many more on the distant valley floor near what I know is the river. Beyond the river, isolated reefs of eroded badlands, the foothills, and the wide swing of mountains wearing early snow stretch across the breadth of the frame. Above the mountains, strung like wavy ribbons from peak to peak, a stacked laminar bank of lenticular clouds, formed of ice crystals and winds so violent no airplane from then or now can withstand them.

The top half of the frame is black. In that dark space an isle of white floats above the scene—the near-full moon on the rise.

There are easy things to say, things we think we can understand. We were born here, at this time, in this location. Mine: a pink, four-story hospital that stands at the corner of the Paseo de Peralta, a street named for the founder of Santa Fe, and Palace Avenue, after the Palace of the Governors, two blocks away, the oldest government building on the continent. The dates, the times, the solid statistics, once stated can be

discarded, they tell so little. These are the beginning points of personal myth, history, the grounding coordinates of memory, the real story. To speak, you learn the language of the world, of place and places, locations informed with human experience, a language that takes shape in stories. Stories have their own logic, their own meanings that act upon memory. The heart: the inward twin of the place we make in the world, our landscapes and experiences, it is the instrument on which our stories play. Remembering, Uruguayan writer Eduardo Galeano tells us, means to pass back through the heart. Memories pass through our heart speaking a language we make from our places, our lives and their intersections with the lives of others.

So, then, the question is: what is truly ours? Understand it in terms of gravity. You know what's yours by its weight.

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A small story. At eighteen months of age I fell suddenly and deathly sick with staph pneumonia, a virulent infection from which recovery is very much not guaranteed. I spent nearly a month in intensive care being poked and prodded in each limb with IVs, strapped down and pounded on to loosen the phlegm in my lungs.

My world became pain, delirium and the confines of an oxygen tent. I breathed only through a tracheotomy tube inserted into my neck. At one point, my left lung collapsed and the right swelled half full with fluid. I had no air to work with.

One night, as my mother sat up late watching over me, I stopped breathing and took on a ghastly, plum-colored hue. She sprinted, yelling for help, down the empty third floor hallway and took the excruciatingly slow elevator down to the Emergency area, the only place a doctor was to be found that time of night. Back up they rode on the slow lift, to revive me somehow, my blue body flushing eventually back to pink.

Of the worst I have no recollection. To this day, hatch marks show on each of my ankles and wrists, scars from sewn-up IV incisions that seem much too large, sloppy even, as if the doctor who made them never anticipated they'd survive to be examined thirty years later. In the aftermath, I had forgotten how to walk, so the nurses escorted me on outings up and down the long, white hospital hallway in a small red wagon, a Western Flyer.

This is what I remember: the nurse as she walked, her arm behind her trailing my wagon along the lighted, linoleum-floored hallway. That, and a feeling which precedes words, a solid form in the rolling ocean, warmth in the belly. That feeling, and the sight of her swaying form before me, towing me along, was my path back to the world, the road to life.

Horny toads lived in my childhood days spent among the piñon and juniper forest on the near outskirts of Santa Fe. Like tiny spined dinosaurs, they scurried along in the dirt and I caught them and touched them, let them go. Because of their camouflaged

backs that look like small desert landscapes up close, you don't see them until they move among the chamisos and grass, dragging their round, sun shaped bellies across the dirt. I pounced my cupped hands over them and turned their undersides skyward in my palm, stroking in the way my father showed me to mesmerize them. Their bellies are pale yellow. When tormented they puff up and shoot blood from their eyes, and their tormentor retreats out of fear or disgust. Once, I caught a gnarled old horny toad big as my whole splayed hand.

The landscape stretched out on three sides of our house, big enough in my childhood eyes to seem almost without limits, and I inhabited every inch of it in the way only kids can. Our street took its name from the route that brought the first waves of white immigrants to Santa Fe, and from the earliest age my toy cars, bicycle and feet ran through the time-softened ruts of old wagon wheels. The Santa Fe Trail slept beneath my bedroom.

Childhood's wide open days grow bounded and chartered in ways you can't name. During my teenage years things began to change in the landscape near our house. One day big machines rolled onto the land to the west I had never thought of as belonging to anyone and scraped away the piñon and juniper trees, tore away the topsoil. A local art dealer grown rich on the sale of items looted from native graves had chosen my lifelong refuge to build a mansion. Soon, a sprawling miniature of the terraced Taos Pueblo hunkered behind a code-protected iron gate and a high wall with security cameras

posted at each corner. Behind the wall, the stiff leaves of a hundred mature aspen trees clattered in the breeze, a new sound. The mountains from which they came rose in the far northern distance.

This motherfucker needs to pay, I told myself and not a few friends. So we did things like get drunk late at night in the mansion's near-finished living room, pretending to high-rolling ownership while loathing the man with each acrid exhalation. Mike was there, a Cochiti Pueblo kid carrying a large and unfocused bag of anger. We stood together in the room-sized safe that would soon guard artifacts made and placed to rest at San Lazaro, in ruins now for four centuries, by his long-ago ancestors. Mike wrote his name in piss on the living room floor. Later, the house complete and the security net humming, Mike and Jesse and I took turns working over the mailbox beneath the streetlights with a baseball bat. "Fuck. . .This. . .Fucking. . .Fucker," Jesse yelled, punctuating his blows, and ran cackling back to the corner of the wall where Mike and I crouched. Mike grabbed the bat in his tattooed fist for his turn, "Fuck this *puto*." It went on for some time until the wooden bat splintered and we switched to a shovel. Somehow, nobody alerted the cops. We were alone, protected, on a small stage of righteous revenge for all that was wrong with the world and our town. Our satisfaction was dubious, but we took it. The grave robber replaced his mailbox with quarter-inch steel, custom made. My little brother would fill it with dogshit.

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So, New Mexico. Near center of the North American landmass, what some native stories refer to as Turtle Island, New Mexico has long been a realm alone, complete by itself. Even after the coming of the Spanish, New Mexico remained nearly immune from the influences of the rest of the world. Diego de Vargas, the second Spanish conqueror of New Mexico, the most northern province of the Viceroyalty of New Spain, called it “remote beyond compare.”

To all but the Franciscan Missionary’s way of thinking, it disappointed beyond compare. Despite the short-lived excitement of the earliest, cursory explorations in 1539, the mountains and mesas hid no cities of gold. Instead, New Mexico promised wide sky, dry land, and over eighty pueblos with 60,000 native inhabitants. Still, the conquistadors and colonists marched northward across the terrible, unpeopled deserts of far northern Mexico to colonize this place rich only in heathens. The Miserable Kingdom, as the early colonists called New Mexico, was a “missionary field,” a vast storehouse of Indian souls to be gathered into the treasury of the Catholic Church. The priests set about filching the land with brutal determination. They began by inverting Pueblo gender roles, rounding up the men and pressing them into women’s work building massive, thick walled churches and *conventos* to house the priests. Meanwhile, the women struggled to keep the crops alive, an entirely new task. Outside the missions, colonists pressed Indians into slavery, including sexual slavery. A Spanish governor banned the ancient Pueblo practices tied to the rhythms of the land. Before long, this tortuous new

arrangement, coupled with the removal of thousands of Pueblo men to gold and silver-producing mines farther south in Mexico, sunk the Pueblos to the depths of starvation.

In the 1660's, a tenacious drought killed thousands in the Pueblos that lay any distance from the Rio Grande. Many of the Spanish were themselves reduced to eating animal hides. The Puebloans believed that, by disrupting the age-old ceremonial cycle, the Spanish had brought about these dire conditions. In secret, ceremonial leaders worked to right the disruption by clinging even more strongly to the traditional practices: the dances, the close attendance of the sun and seasons, the propitiation of the proper gods at the proper times. But they were found out, and Governor Otermin responded by having 60 Pueblo leaders arrested and tortured. Three medicine men were hung on the Santa Fe plaza in front of the Casas Reales, now called the Palace of the Governors. The year was 1677.

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The eighties in Santa Fe. The money rolls in, the art dealers, the architects, the stars and super wealthy wanting to be seen. The drugs. My best friend's father, Tom, is wild, exciting. He's a builder, employs a crew of Mexicans, illegals. I learn the term "wetback," *mojado*. "Get those *moe-hows* over here," Tom yells, when he wants something done. Blake and I are ten years old and Tom talks about fucking like we're supposed to know and it makes us feel like we do. We love to ride with him in his fast

cars, and a BMW 733csi, white with red leather seats, is our favorite. Tom “hauls ass,” as we learn to say, passes blind on the winding road to the Santa Fe ski area. He drinks rum and coke from a big octagonal glass. The cops never touch him. He’s plagued with allergies, I think. Always, the Afrin bottle, for his nose. He drives us around. He sniffs from the bottle to clear his nose.

I was standing on the plaza one day at the age of thirteen when Jimbo, an older kid who also knew Blake and his wild-ass dad came up to me.

“Tom killed himself,” he said. I looked at him without comprehension.

“Blake and Ryan’s dad,” he said. “He blew his head off with a shotgun in the garage at a jobsite. One of his workers found him.”

Dull grey clouds hung low in the cold air. Tourists milled the edges of the plaza, walked the line of vendors beneath the Palace portal. There was the thwapping sound of kids jumping and landing on skateboards around me. I stood there as Jimbo walked off, nothing more to say. It was years before I understood cocaine had twisted Tom’s heart against him.

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Downtown Santa Fe. I have a job delivering lunch items, sandwiches and stuff, to various businesses at midday. The gallery belonging to my former neighbor is on my route. One day, I walk into the large front display room, basket of goods in hand, and the

normally friendly staff ignores me. Instead, they hover in a deferential, obsequious manner over several people looking at paintings. I learn later the fuss is over Ted Turner and Jane Fonda.

I decide to wait around, see if they'll finish up and buy some food. I step into the gallery's interior vault through a thick safe door, open during business hours. Glass cases containing all manner of Indian artifacts line the steel-walled room. In one hangs a necklace made of fingers strung on a cord, dried and jaundiced with old blood. The long black nails look as though they might still be growing. A special treasure. Not for sale.

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On August 10, 1680, the pueblos rose up as one and met the Spaniards. They killed the priests and burned the churches. Pope, a man from San Juan Pueblo, just north of Santa Fe, and several others conceived the plan. Using a secret code transmitted by runners bearing knotted cords, they wove all the pueblos from Pecos in the east to Isleta in the south, Taos in the north, and the Hopi villages four hundred miles to the west, into a united force that launched forth against the oppressors at the appointed moment. Settlers fled to Santa Fe where the Spanish made a stand within the stronghold of the Casas Reales. A large battle ensued, in which four hundred Pueblo fighters died. Finally, after the Indians cut off the water supply to the Palace, the last of the Spanish

finally gave in and retreated five hundred miles down the Rio Grande to El Paso. And so, for a dozen years, the Pueblos regained their lives.

Unable to tolerate the insult to Spain's pride, King Phillip II selected a man whose impressive, pedigreed name suggested he might be able to get the job done: Don Diego Jose de Vargas Zapata Lujan Ponce de Leon y Contreras. In 1693, after another pitched battle at the Casas Reales, de Vargas retook the kingdom of misery for Spain.

Some things had changed in New Mexico and within the Spanish government since the first settlement in 1598. For one thing, ninety percent of the Pueblo population had died off or been killed. The pueblos now numbered only 19, compared to about 90 before. The same story unfolded all over the New World, causing the Spanish Crown to abandon the practice of slavery and forced tribute from the Indians—there simply weren't enough of them left. Outright suppression of Pueblo religion ceased; the new plan called for tolerance and stability. New Mexico was to be an outpost against French aspirations on the continent.

And so it went for the next 230 years, until the revolution in Mexico severed ties with the Spanish Crown altogether. All during that time, New Mexico remained a distant and little-known land, made even more remote by the ascension of the Apaches whose ferocity curtailed commerce between Santa Fe and Ciudad Chihuahua, 1200 miles to the south. New Mexico's first reliable avenue of contact with the rest of the European

world came not by way of the Camino Real to the south, but from the east with the Santa Fe Trail.

Augustus Storr, an early traveler on the Trail, delivered a report to a US Senator in 1824 in which he said, "I saw but one newspaper in the province of New Mexico and they have no description of books except for a few religious works. They are profoundly ignorant of what is going on in other parts of the world and I venture to say that the military fame even of General Jackson has never reached the ears of half a dozen persons in the town of Santa Fe."

No doubt he was right. Twenty years later when Jackson's protégé, President Polk, sent forces into Santa Fe to take over the region for the United States, most New Mexicans *still* hadn't heard of Andrew Jackson.

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Hernandez, of the postcard. Sad, dusty place sliced through by highway. All grown up in shambles around the old church. Elms now tower above it, sagebrush pushed back by dirt lots and trailers, packed, oil-soaked ground, where dogs limp and scuttle from shade to shade, routing flees from mangy hides.

Lived in and loved to bruises, Hernandez.

Think back alongside Ansel Adams, engaged in a tour of the Southwest accompanied by his young son and an assistant. The last day of October, 1941, finds them in the Chama valley, a couple of hours north of Santa Fe. Along the river, bright yellow cottonwood leaves, a shimmering specie, blaze their incalculable treasury of stored sunlight into the crystalline cobalt sky. The sparse landscape falls in ridges and draws from the high country of the Jemez mountains. A perfect day and place for capturing light on film, but the work doesn't go right. Adams has trouble with the equipment perhaps. The meddlesome entrance of too many details in the capture of simple light.

The day passes in work and toward evening, when the horizontal autumn sun climbs early from the Chama and leaves the land in shadow, the trio packs the car and turns toward Santa Fe. Upon leaving the confines of the Chama canyon and spilling out into the broad valley of the Rio Grande, Adams, at the wheel, glances eastward and hits the brakes hard, nearly causing the old car to roll over in the roadside ditch.

He sees the radiance of the last light sweeping eastward, the adobe-walled church aglow in the then tiny hamlet, and the distant mountains, the Sangre de Cristo, flowing in the crimson of their name and swathed loosely in cloud, the near-full moon climbing into the darkening vault.

I too, have seen the same thing, often, and been drawn to a halt mid-step, mid-sentence, halfway home or to somewhere, made to just stand and gawk, opened up in gratitude and longing.

Adams springs to action and, by sheer luck and determination, captures what would become one of his most famous shots. He remembers that the full moon gives back 250 candles of light and so, running on faith and necessity, he adjusts his settings and exposes the frame. The sun dips below the mountains before he can make a backup shot.

Fifteen miles away by raven flight, the students at the Los Alamos Boys Ranch gather for dinner. In eighteen months, their school will become the world's most secret workshop. The war in Europe grows. In little more than a month, the Japanese will stage a predawn raid on the US fleet at Pearl Harbor. The earth at the moment of turning.

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We are all here. All together in this valley place ringed by sky. The hippies in Lama, the Muslims at Abiquiu, Sikhs at Sombrillo, Penitentes in Coyote, Indios at San Juan, Hispanos in Hernandez, all mixed up, washed together, making it, on the make, marrying, loving, laboring, laughing, crying, we're all here, being just what we are, whatever we may be.

And the moon presiding still.

On my bike, riding to Abiquiu to work on the Mosque, spend the day in the sun, patching roof so the dwindling group of adherents can pray and learn dry. In

Hernandez, the shoulder of the highway glimmers and glistens, a starry margin of glass shattered at eighty miles an hour. Spent syringes like snakes leap into view. Swerve around them. And watch out, people pass on the right here.

Or heading south in my truck, by Tierra Amarilla, where the jail is. If you get arrested in Espanola, the cops haul you sixty miles to TA for an overnight, no return trip. I stop for three vatos at the bottom of the hill out of town. We light out, past big painted signs proclaiming “Tierra O Muerte.”

My new friends joke and story, happy to be on the way home, and press me, testing my nerve. What will make me blink, the *gavacho* who should be scared of them. “I spent the night right here, ese,” he points, to an anonymous spot in the road, chamisos and scrub juniper. “My ride broke down and I didn’t have any water to cook with. So I went down to the river and fixed up with that muddy Chama water. Bang! Right into my veins, ese. Now that’s commitment, que no?” On we roll, sliding down toward Hernandez.

The miasma descends to gather its due. Don’t blink. This is the world, it comes at you in the night, behind closed lids, doors. Get high, man. Fly until you crash.

Picture this. I’m driving north with my oldest friend as we round the curve into Hernandez to meet the first in a litany of dead things, a pair of dogs, hind legs shattered on the narrow shoulder. It’s dense fog this morning, unusual, so we’re surprised a quarter mile on by the hulking body of a horse, almost in the road, dead as

the iron shoes it walked upon. *Shit man, that was a pretty big horse. I never seen that before.* Another mile and it's a girl, maybe 13, walking with traffic and not a foot off the white line. Might be on her way to grandma's house. Passing wide, I manage a honk but know it won't matter. Upon our return several hours later, the fog having lifted, it's the body of a man and not a girl laying dead in the ditch, surrounded by onlookers awaiting the ambulance.

As with the pulse of our bodies, a two-part heartbeat sings out from the ground. The diastole, the resting pulse, encloses beauty, care, the abiding mountains, the life-giving rivers and acequias and the prayers and blessings in so many languages accompanying all that is beautiful and good. The active pulse, the systole, bursts out of this background in violence and beauty both: it is the urge to couple and to slay, to paint and sing and build, to fuck and to fight, to go clean crazy from all of it. The chemicals hold sway, the local diet of Crown Royal and cocaine. Add a mighty helping of *chiva*, heroin, and a forest of domestic and imported *mota* to smoke, and it all mixes together and tastes of blood, blood and violence.

Love this place where winds rage visibly, unheard, high above, and in the still night fire consumes two bodies and the metal frame of a car. The hiss and pop of glass shattering, radiator boils and bursts, and the tires peel off a dark trail of smoke to nothing. The adobe walls of the old church, dancing firelit shapes across the mud, silent, preside over this final bonfire in the dusty parking lot before it. Flesh into smoke into nothing.

I'm not saying, I'm just saying, we say. The space between holds the truth. "Sean and I have never fooled around on one another, neither of us has ever been with anyone else," she tells me, cocking her head, eyelids aflutter. "We were married at sixteen, you know."

Her breasts seek me out, trained like eyes I can't look away from. She brushes against me. I know he and three others, none older than twenty, raped the woman from the SevenEleven, down in the thickets of the bosque, near the river. She knows it. He's out, state's evidence, the good deal. She knows they killed her with the tire iron, put her body in the backseat and burned the car. Left it to flicker and burst in the night, the crazed shadows of tree limbs finding no place to write themselves in the endless dark above.

Now he comes down the mountain to work at the tire store everyday, bounces their two little ones at night upon his knee. To church on Sunday. What's said can be unsaid. Done, undone. I'm not saying it had to have happened that way, I'm just saying.

The man from the ribbon-edged mountains told me. Some people die. Some people live. Some people live to kill. To live, some people must kill.

He limps badly. Broken hip, thrown from the mountainside on the low road to Taos, on the job with a crew stringing steel mesh to catch errant boulders before they

hit cars on the road. A rock as big as a house struck a bus. Stopped it dead, like a head-crushed bug. This net won't catch such rocks.

The road-crew accident was nothing big for a man who went eight years in the furtive jungle shadows of Vietnam, taking his steadied shot when he saw it. Country kids make the best snipers, especially the poor, who can't afford to waste a bullet. And the military meant good money to support his mother and eight siblings. A job. No need to learn English. Left alone, mainly, a solitary presence in the landscape. Meditative. Sinister. Eight times they signed him up.

And then back to the mountains, the longtime quiet place, in view but hidden. A run down to the casino once in a while, where his girlfriend works, a job here and there. She, much younger, drives him the long windy way from El Valle, secreted against the Truchas Peaks.

Is this a story only about killing? This lonely vale in the mountains, the blood that underlies it all, the earth beneath our feet, unquiet?

I have come near to the darkness and resisted its grasp. The murders, the violence, the rapes, can consume you, colonize your thoughts and all you see in the world. A blood force calls for reckoning. The ground boils up, blood seeks its own; the painful, beckoning irresistible swirl of history blasts in around you, deafening, so that its awful howl becomes all you hear. Blood seeps in from the edges of the most tranquil scenes, buried just beneath the ground not near as deep as the water we stab

wells down to take a drink. There's the knowledge that everything we love is damaged. We cherish scar tissue. Nerve tissues scrambled, disconnected, desensitized. Before we know it, we have shaped ourselves from it.

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I sit alone on the Pláza in Santa Fe past midnight on an unusually warm January night. The daytime bustle that fills the brick sidewalks and streets around is gone, and now the streets lie empty under the streetlights. Mechanical workings of nearby buildings groan and clank. Steam rises from the heating exhaust pipe at the roof of the First National Bank building. For a half hour that opens into centuries, not a single car passes, not even a cop on graveyard patrol.

I sense the layers of time and experience the ground here harbors like a hidden record. I am slightly drunk, and so am not shocked when figures from the past begin to rise through the concrete pathways, the hardpan grass, the brick-paved streets to walk and dance among the trees that keep their vigil through the ages. This place is home to more than can be seen.

Rafaela Garcia brushes behind me moving clockwise in a long line of young women like herself. She is clothed in a fine, flowing dress her eldest sister has made for her, a flowing green skirt of sheer material, purple and white bodice, lace at the wrists, like the one her sister wore ten years ago on a similar Friday night, circling on the Plaza, coy and shy, eyes downcast against the gazes of the men filing by in the other direction.

This is her night of joy and expectation. She hopes, knows, that Narciso Baca will notice her. He, the young and so handsome man whose father owns the mercantile on the old Camino Real, just off the plaza. She circles, watches him stride by, polished and pomaded, from the corner of her eyes. She catches his peek, over and over, in the circling and the anticipation, the fluttering within, the joy and mystery and expectation. She lives in that always, circling.

Old trees stand up among the living ones, they stoop and groan under the weight of the hanging men, leaves yellow and fall around the nineteen Pueblo elders, medicine men, leaders of their people.

I sit in the easy cold silence under an empty sky. For a long time, only my breathing ties me to this time as the past swirls around me until, finally, two men approach, happily drunk, joking with each other. One of them asks in Russian-accented English, “Can you tell us where is the bar Svig?”

They pass on in the flesh, no more real in my state of mind than the figures of the layered past that swirl around me. I revel in this crack between worlds, the life within the darkness.

An area on the north side of the plaza is roped off around two square holes sliced into the concrete, each about two yards square. During the day, archeologists dig down, layer by layer, sifting each scoop of earth through a fine screen. They are assessing the site for cultural artifacts before the city builds a permanent stage. Tonight, the holes are just over three feet deep, which means that they are almost to the “sterile” point—the

point before human occupation. On impulse, I get up from the bench and step over the low barrier to kneel down at the edge of one of the holes. I reach down into the excavation and grab a handful of earth, dirt seeded with human life, and place it in the pocket of my vest. Rising, I turn and begin the walk home.

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In some sense, life is a succession of the familiar, punctuated by random events that catch our attention. Sometimes it surprises us; sometimes we surprise ourselves. On the move again, still in my beat up Toyota. From the road cut above the Chama with the vista of the Sangres across the valley, I drive down over gentle rises and rolls into the river valley, curving through the town of Abiquiu. The blacktop follows the base of shouldered mesas atop which numberless ruins lay buried and grown over with cholla cactus. Always cholla, and junipers. Maybe the occasional ground-sprawl of datura with its white, purple tinged flowers spiraling open at night like small mirrors of the wheeling, starry sky. Never touch this plant carelessly, they say, or you may be lost forever to madness, mind reeling helplessly into the inaccessible reaches of inward night.

Farther along the highway, past Abiquiu, I turn north onto another road, the way to El Rito and my rented adobe. This route leads gently higher, through sandy, open land with few trees, away from the river. At the edge of the dry wash along the highway here I have walked atop ancient patchwork gardens mulched with pebbles against the tireless bake of the sun, a thousand years after last harvest.

Now, the sun has lowered to the point where the landscape glows yellow as it ever gets, suspended in a luminous, elongated moment I drive through. The blacktop ribbons over a crest, away from the wash and the ancient, pebbled fields. When the Toyota pops up on the hill I can see windows in El Rito, still miles off, shining like diamonds.

This is when I look in the side mirror and see a pickup truck bearing down on me fast. Three guys inside, I can't tell their faces. The truck passes in a woosh of purpose, pulls in front, and its red brake lights suddenly leap back at me.

I brake hard, and barely slow in time, tires screeching, to avoid hitting the back of the truck. I can't see the men inside through the dust covered window of the truck shell. I shift down, pull into the left lane, and pass, glancing into the cab of the truck as I do. The driver deadpans like nothing happened.

I run the car back up to speed, get well ahead of the truck, and try to concentrate on the shining landscape. Instead, the pickup grows larger once more in the rear view until, again, wind blasts in my open window as it passes. Again, the hard brake and I crank the wheel to the right to keep from hitting them.

What the fuck is wrong with these guys, I mumble to myself.

My heart's pounding pretty good by now, and the adrenaline rush runs quickly into anger. I take a deep breath, jam the car into second, and overtake the truck. This time I don't even look inside.

Now we are about a mile outside of town, approaching a side road that takes me across a sagebrush flat, past the dump, and to the road my house is on. Surely, these

fuckers won't turn there, I think. By the time I'm up on the turnoff, they're on my tail again, and I make the corner fast, jouncing across the cattle guard and onto the narrow humped road.

They come around with me, right on my tail, and I'm wishing by now I hadn't stowed my gun in the trunk. I accelerate and they keep up, menacing. There's nobody else in sight ahead or behind, and I'm not far from the house by now, so I decide to let them pass, or whatever the hell they're going to do. The road is pot holed blacktop laid down thick on rough dirt, no shoulder, so I hug the edge as close as I can. I pull my elbow in the window just as the truck hits my car with a screeching crunch of metal on metal. It runs up the length of the cab, busting off the side mirror and starts to climb up the front quarter panel as I slam the brakes hard as I can.

The moment the car stops, in one movement, I yank up the parking brake lever, pull the latch for the trunk, and spring out the door to the back of the car. By the time I have a round chambered in the pistol, the truck is yards down the road, not stopping, but I'm so blind with fear and rage I turn the upraised pistol away across the open sage and squeeze the trigger. Bang. Eight times, in quick succession, the gun roars into the sky. A quarter mile off, grazing cows lift their heads to look at me. I stop squeezing and stand, arm still lifted against the llano, as the improbable rumble the gun had raised drops back into the ground.

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Look at the moon in the black immensity of sky. Verticality diminished; look out, not up, into the vastness of space. Moon and earth meet at evening. Moon and firelight dance. A stage is set, poised at the point of turning. Those shining mountains soon to preside over the pandaemonium of the atomic age. Inimical dawning, howling forth in hunger for a half a million lives, villages made empty, stories erased. Saying, it says not.

We might imagine the dead speaking, tales issuing from beyond and beneath those headstones. But ghosts don't speak. Story is the province of the living. The empty stage of the photograph, where everything is static, possibility in a world momentarily untenanted, *not a soul in evidence*, a vessel to contain a million stories.

Our lives tell stories of mad contradiction. Beauty edged with violence, enticing and frightful at once. "Don't hurt her too bad," the boyfriend yells, waving and laughing, drunk, at night in the Taos parking lot, as two strangers drive off with his girl, not unlovely, who wanted a new adventure. Some things must be done. Pay your money, take your chance. What is joy, after all, if not suffering exalted?

And we love it. We can't help ourselves. The pain, the longing, all finds a home here inside of us. I look at that photograph and I feel the force of numberless memories, of all colors, adding up to a loved place. A place I want to hold onto, to protect. A place I want to hold onto me. Pay attention. Pay attention to what is possible, which is everything

Dios mio! we cry out, in our churches, our bedrooms, our kitchens and graveyards. Comfort us, make us to know you, that we may be lifted up from this suffering. Know this, the empty town says, everything attends. All is here. These bones and skin, frail boat under sail in boundless sea. Our earth, suffering vessel in the void. Vast beyond reckoning. Uncharted. All we need. Where else but here to taste the salt of tears, of kisses.

I look down at my own hands, folded skin on the backs of them like the crumpled lands below the mountains, the blood inside, warm and flowing, sun's luminance emerging from my eyes to meet the lights of my fellows, here on stage, beneath the abiding moon which promises the untold mystery into which eternity opens. Some say we realized something our first look back at ourselves from the surface of the moon, our island of blue, fragile, discrete, irreplaceable. Has not our moon counseled the same all along in its lone monthly wanderings, its mute, cold, lifeless accompaniment to our living journey, our moment-by-moment unfolding of form out of nothingness. Moon, our compass.

Press hands to earth to breast to face to stone, touch the unfolding world. Imprints in the rocks, hands of a thousand years ago, holding a place, a circle of light, of experience, the artifacts of lives reflected in living sun.

Pay attention, the moon says. Care beyond the false limits of time, the crosses call from sixty years ago. Encompass.

Let nothing be not ours.

Among The Outlaws

Note: Some names in the following essay have been changed.

Flies circle in the slant light and the sweet reek of David's wood-burning cookstove lays heavy on the air. We sit in the afternoon, Juan and David and I, and gaze out Dave's open door south across the unbroken roll of piñon forest toward the Jemez Mountains, a burnished green in the bright sun. Empty bottles of the Mexican beer I brought gather on the table before us. In the near distance, the flat topped Cerro Pedernal stands like a truncated Hershey's kiss. O'Keeffe should have painted this view.

In Spanish when two people share a name it is said they are *tocayos*. Somos *tocayos*, and we joke about that. Juan dresses always in the head-to-toe black of a mourner, but his eyes shine out from beneath his wide hat deep and sincere, and only a little sad. His long, grey-streaked black hair falls to his shoulders. He wears polished cowboy boots and walks with a cane, his knees and hips shot from years of logging.

David also wears a battered black cowboy hat with a deep nick in one side of the brim. It rides low on his ears, his thin hair like old straw pulled back, his creased cheeks like sunburnt badlands. When the hat comes off, Dave's forehead glows white above his ruddy face. An Englishman of Irish descent, raised in Yorkshire, he ended up on this plot of land at the end of the ditch line about twenty years ago, roughing out a living subsistence farming on the ranch he caretakes.

David and Juan live in Canjilon, New Mexico, where the land begins a slow rise to the border and the San Juan Mountains stretching up into Colorado. This small Hispano village—not much more than a collection of farmhouses, a school, a post office and a US Forest Service outpost--lies at the dead end of a spur off the main highway. You don't get much more out of the way than here. Canjilon is a backwater, a community not so much frozen as forgotten, by time and the rest of the world.

On the dirt lane to David's house a colorful statue of Jesus bearing the cross stands in the ragweed before a windowless adobe church, a testament to the longtime isolation of the place. Two hundred years ago, Canjilon and other villages in Northern New Mexico lay on the forgotten frontiers of empire, abandoned even by the priesthood of the Catholic Church. The people took spiritual matters into their own hands and a

brotherhood emerged around Christ's deepest suffering, the Penitentes. Their central practice became the reenactment of the Passion, complete with bloodletting and crucifixion. A renegade sect spurned by the Pope, they still flourish today.

Ever since I was a boy and dreamed of running off to the mountains to live among the wild things I have held a fascination for rogues and outlaws. New Mexico is a heaven for those who love outlawry. Pope, a San Juan Pueblo man, is perhaps the original outlaw of the continent. In 1680 he engineered the simultaneous Indian uprising involving Pueblos from the Rio Grande to the Hopi mesas, four hundred miles west, that expelled the Spanish for more than a decade. In a history book not centered on the Anglo perspective, this would stand as the first American Revolution. Less noble renegades abound in our history, from Billy the Kidd to Kit Carson to Pancho Villa. In a place like Canjilon, in the company of such ardently unconventional characters as David and Juan, New Mexico seems very much a final holdout against worldwide conformity, the place Aldous Huxley imagined.

"We're dry land farmers here, pard, even though we have the ditch" David says, in his cockney tinged drawl, a Continental Western accent. "We're Hopi farmers," he'll say, referring to the masters of dryland farming.

Since I first met David, nearly fifteen years ago, we've labored together many seasons on his sidehill gardens, turning out bushels of the deep blue corn his wife and three boys make into tortillas, bread, and *atole*, a gruel. "This Hopi blue has the highest amino acid count of any food, man. It's deep fuel," David says. One thing most Hopi

farmers don't have is a pistol tucked into the belt in the small of the back, but then this is a different sort of mesa top.

Thirty years ago, as a young, somewhat idealistic, vegetarian hippie, David turned and ran the other direction first time he heard a chainsaw roar. "Some buddies and I drove out here from LA on a lark, drove all night. I fell asleep in the back of the van and woke up here," he says. "As a kid all I dreamed about was the Western life—horseback on the range. Freedom. We didn't have that in Merry Olde England. Shit, bud, I had to trespass every time I wanted to go fishing. I woke up here in the middle of my childhood dreams and that was it."

David had heard about New Mexico, and on a wild hair in this late twenties, he decided to join some friends who were going there. After an all-night drive, morning found them in Canjilon. He knew right away he'd found home. He left behind a wife in California for good, never went back. He hasn't revisited England, either—hasn't seen his family there for twenty years. They've never met his Chicana wife, Ana, and their three boys. One day a box came in the mail with his dad's tobacco pipes in it. He had passed away on the other side of the world. David keeps the pipes, dust covered, on a counter in the kitchen, a photo of his parents next to them, and the phone that hasn't worked in years.

David arrived in New Mexico in the early seventies, on the tail end of the hippie wave, the often self-marginalized seekers who recognized opportunity in antiquated

rural New Mexico. They met with the ultra-traditional Hispano people who had been marginalized by history, poor and dispossessed of lands that once belonged to them.

In Rio Arriba County, New Mexico, the edge where the hurts of the past boil up into the present is not hard to find. Poor mestizos and detribalized Apaches settled Canjilon and the other towns of the Chama valley in the last days of Spanish rule and the brief early nineteenth century Mexican period. The idea was for the populous Rio Grande Valley—Santa Fe, Santa Cruz, and the Pueblos and rancheros along the river—to have a buffer, a first line of defense, against marauding, ardently tribalized Apaches, Utes, Navajos and Comanches. Canjilon, Abiquiu, Truchas, Trampas and a half dozen other villages were set out as fodder, not to prosper, but to survive. Maybe.

Most did survive well enough raising sheep and later some cattle. In the wide bottomland along the Chama they planted fields in maize and chile, beans. Higher up, like in Canjilon, they scraped away smaller plots in the rocky ground and watered their gardens with cold mountain runoff snatched away in acequias—irrigation ditches—from the small creek. On the Fourth of July, Dave’s birthday, you can wake to find squash leaves in the garden blackened by frost.

The ripoff involved land grants given to communities under Spanish and Mexican rule. Under this system, large areas of commonly held land were used by all the members of a given village for grazing, timber harvesting, cropland and hunting. When the US invaded in 1846 and annexed nearly half of Mexico with the Treaty of Guadalupe Hidalgo, these grants were supposed to have been guaranteed in specific

provisions of the treaty. However, years of political maneuvers stripped the forests from the people and the majority of the lands ended up in what would become the National Forests, a coarse simulacrum of the former communal system. Other lands, hundreds of thousands of acres in all, were back-roomed into private Anglo hands by the notorious Santa Fe Ring of lawyers and politicians.

The Forest Service offices in Canjilon, a large official presence in this tiny town, stand as a painful reminder of the hurts of the past. Around town, I often heard people complaining about the restrictions the Forest Service put on their access, their ability to graze animals and cut timber. The people still wanted to be free to use the land as they wished without some intermediary dictating to them. I couldn't help but feel sympathy for their cause, but I found myself wondering what the lands might look like today if the people still controlled them. Would they be more cut over than they are? More grazed or less so? Cutting firewood, David always took pains to improve the land by blocking erosion channels with small branches he would lay down and stomp into place. When we came across trash in the woods or along rivers, he picked it up, muttering dark curses upon the offenders. In the few times I cut wood along with other locals, I found myself swallowing my protests rather than voicing them as empty beer bottles were flung throughout the woods. I'm just not as tough as David. Life is hard here to begin with, for an Anglo, let alone an Englishman, you must be doubly tough.

Besides the wide skies, the horses and the open range, David met with a cast of dangerous characters and a big helping of Western-style violence. In a fight in the Chama bar, four men ganged up on him and broke his jaw. He returned to eating

oatmeal and refried beans through his wired-shut mouth for six weeks. He found himself in more than one situation with guns drawn, bullets flying. In one gun battle, he and a companion were besieged in David's house for half a day, crouching below the windows as bullets zinged by and glass flew, returning fire when they could. The State Police finally intervened before anyone was killed.

David became hyper-vigilant, accounting for the perennial gun in his belt. "Never let 'em get the drop on you, pard," he tells me. "You've got to always be ready. Some of these rat bastards around here will show you no mercy. There's some people just need shootin.'"

In David's kitchen, we talk about the 1967 Courthouse Raid. In the late sixties time of everybody thinking they could set things right, Juan and others reached their limit in the face of the injustices against local Hispanos. Juan's voice starts high and falls with each sentence, bringing his words to ground. He speaks in rough rhythms, drawing sharp breaths, the last word of each phrase pulled into a shallow grumble. He says something like this.

"There was no other way, hombre, no other way. That jailer in Tierra Amarilla was mistreating us, wronging everyone, bro, all the activists and especially the people from Canjilon. He was brutal, hombre." You believe what he says.

Dave picks up Juan's patterns of speech when they are together and the last bits of his thin British accent evaporate. "You did right, Juan. You had to protect your

family and your land, hombre. You can't let them treat you that way, bro! If you hadn't shot that cop the way you did, somebody else crazier than you might have killed him"

Juan nods. "I know. It all happened so fast—there were so many guns. Before he could draw, somebody had to shoot him, so I did--to the right side of his chest, where I wouldn't hit his heart."

David makes a motion like sweeping the table with his hand, the gun to the chest of the cop. "You had to think fast, hombre, you did the right thing. No, Juan, you don't want to kill anybody. No, no. But dammit, hombre," Dave slaps his knee for emphasis, almost yelling, "you can't let them treat you that way. You stood up, bro."

Their talk goes on like this for a while, circular, like rubbing an old wound. "What happened to the jailer?" I ask.

"Somebody must have tipped him off because he ran out the back window just as we came inside. We never got him. A few days later they found him dead out on the mesa west of town. He was naked. They dragged him behind a pickup for miles across the sagebrush."

"Did they ever find out who did that?"

"No," he says. "It was wrong, hombre."

In the early sixties, as civil rights movements across the nation gained traction, the poor and disenfranchised Hispanos of New Mexico also began to mobilize. Limitations on the numbers of grazing permits the Forest Service would issue added

fuel to the fire of resentment among many who felt they had a right to use the land regardless of the federal government's policies. At the same time, a Mexican-American former evangelical preacher from Texas named Reies Lopez Tijerina arrived on the scene. With his magnetism and gift for stirring crowds, Tijerina founded a political group called La Alianza Federal de Mercedes (The Federal Alliance of Grants,) aimed specifically at winning back the lost lands. By 1965, the Alianza grew to a membership of 14,000, and authorities were beginning to take notice.

The Tierra Amarilla grant, on the edge of which lies Canjilon, became a focus of the movement. This 600,000 acre grant fell into the hands of Thomas Catron, leader of the Santa Fe Ring, in 1912 as the result of a single parciante, or grantholder, defaulting on a loan. Anger over this loss ran deep.

Underlying the movement was a current of racial injustice, which played out in acts of violence and arson against Anglo ranchers in the area. The District Attorney of Rio Arriba County, Alfonso Sanchez, attempted to crack down on the Alianza, and began arresting members, many of whom were from Canjilon, on flimsy or outright unfounded charges. The boiling point came when Sanchez hauled in eight members in advance of a planned Alianza meeting, ostensibly to disrupt their planning process.

On June 6, 1967, with eight of their fellows in jail at the Tierra Amarilla courthouse, Tijerina, Juan and nineteen others stormed in. They planned to place Sanchez under citizens' arrest and free their prisoners. In the process, a State Trooper stationed as a guard was shot. Sanchez somehow managed to escape.

Then Governor Cargo, out of the state at the time, called in National Guard tanks and two thousand police and troops. The hunt was on for the raiders, who quickly evaporated from the scene. One story tells of the troops rounding up the people of Canjilon— women, children and *viejitos*, old people-- and keeping them in a goat pen one long, frosty night as bait to draw the fugitives in.

In the end, the weight of the charges fell on Tijerina, who was caught two weeks later in Albuquerque. Juan was never charged for the shooting. When Tijerina's case finally went to trial, he was acquitted of all charges. Nowadays, he resides in quiet madness somewhere in Mexico, where he occasionally grants an interview in which he details intricate conspiracies set against him, often by Jews.

I suppose there aren't very many possible outcomes for firebrand revolutionaries. Martyrdom or obscurity are perhaps the most common. Things did settle down somewhat in the aftermath of the raid. In the past ten years there has even been serious talk in Congress about formulating a committee to investigate all land claims involving grants. But the Lakota have easily as strong a case for South Dakota's Black Hills as the Hispanos in New Mexico do on their land grants, and we see how far the Lakota have gotten. It's hard to change the nature of nations or persons, even ourselves. People settle back into just getting by.

One late fall, David and I were out hunting in the beleaguered sagebrush country of the upper Chama. We bounded through windblown drifts in his salvaged one ton '49 GMC, chains on the wheels, to a short, tree lined ridge. Crunching through the crusty snow to an opening in the forest I saw a mule deer buck leaping quarterwise away from us at two hundred yards. In the same instant I saw the deer, David's gun exploded next to me, a single shot, and the deer fell in his tracks like a stone. This is David, the ex-vegetarian.

Dave told me how he came back around to eating meat. One day early on in his life in New Mexico, while living as a hand on a remote ranch, getting by on beans and rice and tortillas, David came upon a shocking scene while riding fence. A coyote was caught in a leghold trap, struggling but very much alive. David puzzled over the situation, trying to discover some way to free the animal without getting bitten. Every time he got near the coyote, the coyote lunged at him. He finally decided the best thing would be to put the critter out of its misery. Gunless, he looked around for a weapon and saw a gnarled old dead juniper nearby, its branches still thick and strong. David broke one off and stood with the branch raised over his head looking down at the pathetic coyote.

"There was something in his eyes clear as day," he told me. "We were communicating, looking at each other. His eyes were saying, 'No! No! Do not do this. There must be another way. Don't do that to me.'"

But David did. He brought the branch down on the coyote's head, freed him from the trap and brought the carcass home to skin out. A couple of days later, the

trapper came by the house David lived in and saw the skin hanging from a tree outside. Angry, he challenged David, demanding an explanation.

“That pelt belongs to me,” he said. “Each one of those is worth a hundred dollars and I’ll be damned if I’ll see them carried off from my traps.”

Not being one to entertain arguments on points of ownership, David refused and sent the trapper away. But he had learned something—he could earn good money if he’d get over his qualms about killing. Next day, David bought a couple of traps and a long string of coyote pelts found their way to market.

Three crosses mark a spot by the side of a dirt road at the edge of town, not far from David’s house. On a Sunday afternoon in spring, three young men, one the son of a good friend of David’s who had, a half hour before, dropped by for a visit, were gunned down for no real reason, good or otherwise. One of them had made a smart-assed remark to a man who had it in for his father, something like that.

There is always the danger of romanticizing, sentimentalizing, and I find myself listening to David’s stories with a mixture of fascination and trepidation. There is the tendency to believe that, with guns drawn and bullets flying, we are somehow closer to the heart of things. Maybe we are.

Living By Water

1. Water in the West: Worth *almost* ranting about.

But for the high, cloud-gathering, moist spine of the Rockies, most of the interior West could be categorized as desert. Tree ring studies in the Southwest indicate that the normal pattern is one of very modest rainfall—say, fourteen inches a year in places like Santa Fe—interspersed with severe dry periods which can drop that rainfall down to four inches a year for thirty years running. Since 2000, much of the Southwest has been in the grips of a drought; the hope is that it's not one of the thirty-year types the tree rings tell about.

In Santa Fe, strictly enforced conservation ordinances have caused grass in the parks and medians, and most private lawns, to sear away to bare dirt. All over town and in the surrounding countryside, the pinon forest that so defines this area of the world is dying from drought-enabled beetle infestation. The very landscape is changing in a dramatic fashion that hasn't been seen in hundreds of years.

These changes are worrisome, unsettling; they enter one's consciousness and color thoughts about everything. A friend recently offered a drought metaphor to illustrate his place along life's road. "Turning thirty," he said, "is like a Stage Three water alert—you have your happy green lawn and now all you can do is sit and watch it go brown."

Fighting time's inevitable advance is as futile as struggling against the dictates of climate. Against the immutable facts of our aging bodies people throw all the combined knowledge of chemists, engineers and clothing designers, the image-altering acquisition of flashy cars, a new pair of shades, and the short-term miracles of Viagra and the latest skin-smoothing surgical technique. Against the immutable desert we throw dams and canals, tunnels under mountain ranges, cloud seeding schemes and a hell-bent, eighteen-green-citrus-hole-swimming pool-growing-oasis-in-this-godawful-wasteland-style doggedness to deny the undeniable environmental facts of the matter, which are—It's dry as a bone out here and it pretty much always will be.

But, like so many other things, the way we fit or don't fit into the landscape is a question of scale. As Edward Abbey so insightfully put it, "Growth for the sake of growth is the ideology of the cancer cell." That maxim should be emblazoned on the

forehead of every county commissioner, every developer and land planner from LA to Albuquerque, Denver to Juarez, where our arid lands are shot through with cancer after cancer. How long till this horse just keels over?

In large part, what makes all this growth possible is the Herculean feat of moving gargantuan amounts of water from one place to another. Water that in the normal course of its flow would end up somewhere else. I've driven across the desert west of Phoenix and encountered the cement-lined aqueduct of the Central Arizona Project which carries much of the water Phoenix consumes hundreds of miles east from the Colorado River, thereby helping to ensure that the river no longer makes its way to the Sea of Cortez.

The great desert cities are always quick to point out that it's not they who use the lions' share of water, but the lions of agriculture. In central New Mexico, up until a recent and revolutionary court ruling that afforded rivers a right to carry water just for the sake of their continued riverness, the Rio Grande was frequently sucked sand dry by the local irrigators, most of which are mega-sized corporate farms. *We return what we don't use to the river*, the farms all around the West argue. But a river without water is not a river. It's a ghost. Just like a concentration of recycled effluent and phosphate-laden agricultural runoff is not a river but a monster. A monstrosity.

2. Drawing from the Source

Guiding water from its natural course into one that benefits humans is a practice as old as agriculture, and it is at least a couple thousand years old in the part of the world

I'm from, the Northern Rio Grande. I've had my own hands in on it. My family owns a small place way up high in the mountains along the Colorado border. The sparkling waters of the Rio de Los Pinos, river of pines, runs through the property and alongside a large meadow homesteaders, some of the last in the West, worked in the teens and twenties. An old rock diversion sends water from the river into a ditch that runs down to the meadow to water the hay and alfalfa they used to grow. All that remains of those people now are a few fallen-down log structures and an old horse-drawn hay mower that has sat beneath a giant spruce in the middle of the clearing the last seven decades or so.

But the ditch still works, when we keep it dug out and cleared, that is. The way water is divvied up in the West is through something called the doctrine of prior appropriation. This is a pretty complicated ball of string, with endless layers of razor-edge distinctions that keep legions of water lawyers well employed. There are a few simple things to be said about it, however. First, prior appropriation means basically that the first guy to use the water gets to use as much as he needs to water his stock and grow whatever he wishes on his piece of ground every year forever—his rights supersede the rights of all other subsequent users, upstream and down. The guy who moves in on the thousand acres next door gets his share, but only so long as the first guy's water needs can be satisfied from the creek. In dry years, the further you are down the line of priority, which has nothing to do with the geographical track of the river, the less likely it is that you'll get any water.

Another important aspect of the law is that if you do have water rights on your land, they are granted with the understanding that they'll be put to "beneficial use" on

some consistent basis. This means that if your rights are for agriculture—gardens or hay meadows and the like—you’ve got to grow those gardens and hay. If you leave the land fallow and let the water flow on by, the government begins to think you don’t need the water and that can lead to a loss of rights.

A third point is that nobody in the West who’s got water rights and a sound mind would stand to lose them if they can help it, which is why, almost every spring, my father and siblings and I muscle rocks and shovel dirt till the water makes it down to our erstwhile hay meadow.

The practice generates an almost magical, affirming, satisfying sensation. The work is hard, you sweat and your back aches, but the sight of the advancing tongue of dirt-filled liquid life is all the impetus you need to press on. I remember one year, I must have been about five and contributed to the effort with a tiny plastic shovel, happy and covered in mud. A big rainbow trout made it all the way down our dead-end waterway to a place where the ditchwater pooled up, nearly a mile down. I was delighted seeing it there, so big and bright hovering in the water so close by, and was even more fascinated when, the next day, it was gone and I got to imagine my dad’s story of an owl swooping down, catching it in its claws and carrying it off for a meal.

After some good long weeks of spring watering, and before the inevitable influx of public lands cattle that wander in to transform our work into cowpies, the grass grows tall around the islands of yellow-blooming potentilla and looks verdant and watered from the air, which is what we want. If the State Engineer is flying around up there, looking

for dry spots that tell of water available to cities and farms somewhere way downstream, we want him to know that we've got our beneficial use covered.

New Mexico has the longest, most layered water history, and therefore the potential for the thickest legal entanglements, of any state in the West. As I mentioned, the Pueblo people along the Rio Grande and Chama rivers have diverted water for the purposes of irrigation for millennia. They were irrigating their extensive gardens in places like Yunque Yuweengue, north of San Juan Pueblo, when Juan de Onate and the first Spanish settlers arrived to stay four hundred years ago. They, in turn, brought their own customs and legal system having to do with the apportionment of water. That system divided resources up by communities, known as *ejidos*. It was essentially a public-lands system that ensured equal access to resources of the landscape—wood, stone, grazing, wild game, and water. Ditches, known in the Spanish tradition as *acequias*, were built in a community-wide effort. Most of these old acequias still function, as is the case of the Acequia del Cerro above Truchas, which carries water from far up in the mountains to fields quite distant from the water's source.

In Santa Fe, old ditches still carry water though the old courses as the modern city bustles. The Acequia Madre, or “mother ditch,” makes its windy course alongside of and underneath the narrow old streets on the east side of town. Not many people now use its water for any “beneficial use” yet it still runs often in the spring and early summer.

3. The Broken Flume

On the eastern edge of Santa Fe, where the river spills out between foothills of the high, treeless peaks of the Sangre de Cristos, there is a little valley, nearly hidden and cut off from the city, yet only minutes from the town's plaza. This is prime farmland, and up until the sixties, many of the small fields on the benches above the river were under cultivation. The houses are mostly old adobes, many with the sloped tin roofs common to farmhouses in Northern New Mexico. Along the river, once-tended apple trees grow unpruned, their fruits enjoyed primarily by the late night bears of autumn.

I lived in this valley for many years, in a slightly-improved garden shed heated with a small wood stove. My little dwelling sat among extensive garden-covered terraces where the land sloped up on the north side of the river to the broad, squat Cerro Gordo, "fat hill." The main house on the property, a white-stuccoed adobe with a red metal roof, dated back to the first decade of the 19th century. Sand from the old dirt roof filtered down between the latillas in the ceiling onto our food in the kitchen. Through some cracks between the split cedar that bridged the ceiling vigas you could see bits of yellowed newspaper from who knows when. Cynthia West, mother of my friend Able, bought the house and land from the Martinez family in the waning days of New Mexico's hippie efflorescence, in 1971. An artist and poet, she is also the matron of an extensive network of renegades and eccentrics, painters, jewelers, Buddhist monks, Taoist masters, fledgling writers, massage therapists, chefs and auto mechanics who have lived, each

adding a little touch to the place's character, on this plot of land over the years. I called it home for a number of years in the nineties. We dubbed it the "Bohemian Embassy."

Curved along the contours of the hillside and supported with walls made of river stones that surfaced on the land, the terraces in full summer were a sight to behold. The uppermost, at the main house, was lined with lilac bushes, day lilies, columbine and other flowers. Below that, a trellis of grapes provided a cool place to sit on hot afternoons, and a small lawn, shaded by the wide branches of an ash tree and several apple trees. A rail-tie stairway led from the grass down to my casita and a terrace where we grew garlic, raspberries, peas, tomatoes along the rock wall, and where Reno, Cynthia's husband, cultivated his prized artichoke patch. Comfrey and horseradish spread wild in pockets here and there. At the foot of the hill, where the land flattened to a gentle slope two hundred yards to the river, we grew corn, beans, chile and squash. In the long, hot months before the monsoon rains of late summer, our little oasis was quenched solely by well water.

Beneath the small deck of my shed, a shallow depression marked the path of the acequia the Martinezes and other farmers up and down this side of the valley no doubt used in former times. About a quarter mile upstream of our property, a large arroyo bisected the ditch line. A flume that had bridged the acequia across the arroyo had blown out in a flashflood long before Cynthia and company moved in. Each spring, as the snow in the Sangres melted and the river swelled, the full flow of the acequia, intact above the broken flume, washed down the far side of the the arroyo and back to the river. And each spring Able and I would sit on an old couch we had tucked into the overhanging foliage

of a lilac, look at the bright, singing taunt of water spilling into the arroyo, and think:

wouldn't it be great to get the acequia back?

One spring I called Booker Kelley, scion of an old Santa Fe family, and mayordomo of the upper ditch. He told me that, fifteen years before, at his encouragement there had been talk but no action on fixing the break and restoring the lower acequia. He offered his blessing to our effort, but said that he was done trying for his part. Able and I decided to ask around among the neighbors, see if there might be more interest fifteen years later in restoring the old water.

Able talked to Jeff, a young, energetic guy who had bought and was building a house on the land adjacent to the broken flume. Jeff was all for it, and willing to put both money and sweat into the effort.

Next we talked to Matias Armijo, a gentleman retired from the state Highway Department, who had been born and grew up in the valley. He still kept horses, but had not farmed on his land for decades. We caught him pushing manure out the back of his corral with a tractor into a pile we used to fertilize our gardens.

“Why not?” he said. “I could use the water for my horses; more than anything, I would just like to see the old acequia running again. When I was a kid, I used to have to haul water from it. We used it for everything—washing and cooking, everything.”

Having someone from the old days on our side galvanized us. Matias even offered to use his government connections to get some heavy equipment if we ever needed it for the project.

Our next contact for the restoration was Bear, to whom Cynthia had sold a small parcel next door in the early seventies. A hand-carved sign on a post outside his hand-built house announced “B.R. Rudolf, Counselor.” With his wild, slightly greying hair and smoke-singed voice, Bear had the magnetic ease of an old hipster edged with the sharpness of an East Coast, establishment upbringing. “Yeah man,” he said. “That would be so great to have the water down here again. Let’s do it.”

Bear knew a lot of the people along the acequia’s path farther down—nearly a mile to a small public park where the ditch used to rejoin the river. He and Able volunteered to walk the line and visit with whomever they could. In the meantime, I took it upon myself to look into the legal aspects of our proposal.

I waded into the paper murk of the state archives downtown. From documents, maps and aerial views, I eventually determined that the flume probably washed out sometime in the early sixties. Matias had told me that the acequia fell into disrepair during WWII, when many of the younger men were away from the land for several years. I surmised that the break in the agricultural continuity caused by the war, coupled with the booming, wage-focused economy in the years following, spelled the beginning of the end of the ancient ties to the land and the acequia. It looked like the water rights attached to all the properties downstream of the flume hadn’t been exercised for nearly forty years.

In the fifties and sixties, faced with a growing population in Santa Fe, the state and the water company had expanded a reservoir far up Santa Fe Canyon and built two others. The water from the mountains, more and more, was going toward urban uses, and the acequia rights fell by the wayside. Meanwhile, all over Northern New Mexico,

arguments between different parties regarding water rights were becoming more frequent and more heated. Water was essentially overallocated—there were more people claiming shares of water than the rivers could deliver. This situation was compounded by the very character of the traditional acequia systems, which ran on an organic, imprecise, familial structure. No acequia's headgate had a flow meter—heck, few had anything resembling a proper headgate. There was no way to gauge just how much water was used in relation to the amount allotted in any given watershed. In response to this situation, the State Engineer began in the sixties to “close” watershed basins and set about measuring and appropriating waters in some manner approaching the scientific, a process called adjudication. Decades later, our watershed had not yet been adjudicated. If our rights had yet to be defined, our logic went, then they could not have been removed. It looked not so much like a green light, as the absence of a red.

Able and Bear had gained a number of other allies farther down the acequia line. It seemed that most people, even if they had no desire to use the water for irrigation, wanted to at least enjoy the sight of it running across their land. In the intervening years since the acequia last flowed, however, a number of houses had been built right on top of it. A siphon system would have to be built to carry the water downhill, in a U-shaped path, around the new houses, and back up to meet the acequia. Work like that requires money, which would be our next hurdle.

One sunny day in May, I arranged a meeting between the three or four people most interested in bringing water back to their land, an attorney from the city of Santa Fe, and Owen Lopez, director of a local charitable fund. We met at the top of the lower

ditch, on Jeff's land. Sherry, the city attorney, said that, while she couldn't promise any help, the city was in no position to actively thwart us. Water rights were, after all, a state matter. Owen said that if we incorporated as an acequia association, his organization might be willing to grant us the money to get started, perhaps enough to replace the flume.

Bear, our attorney, put together the paperwork for us to incorporate and applied for a grant from the McCune Foundation. The process had begun, a slight but sure trickle we hoped would gather momentum.

That was nearly eight years ago, and veritable lakes of water have passed beneath our bridges since then. I moved away and became engaged in other projects. Able entered into an adventurous marriage lasting several years, though he stayed close to the land, always planting and working the gardens. Bear, a wanderer at heart, set off for several years in China. Somehow, though, the acequia project persisted, the water flowed.

Not long ago, I returned for a visit and found Bear and Able, now back from their respective journeys, working with shovels on a sunny day in December, digging a foundation for another room at Bear's ever-growing compound.

"Hey, it's Mister Acequia," Bear proclaimed, freeing his hand from a glove to greet me.

"Mr. Acequia?" I asked, confused.

“You’re the one who put us onto Owen, and got us started with the flume, man. Now we’re almost down to the park. We have most of the siphon in place, the city’s on board, and there’s a lot of interest in putting in a community garden.”

Able stood by, grinning. “It’s the proverbial dream come true,” he said.

Able and I walked along the acequia to my old shed. The ditch ran right in front of the door. Now, in midwinter, it was dry, a vessel of potential. Able had painstakingly lined it with round river rocks its entire length across the property. It struck me as, well, a *monument* was the first term that came to mind—though an acequia is anything but static—to a deepened relationship with this particular landscape, this desert valley where the lifeblood of the mountains gathers. It was, in a word, beautiful.

Our little project was, of course, not exempt from the freight of irony that accompanies almost anything humans do in the realm of environmental or cultural restoration. The shifting values and economics of the postwar decades led to the decline in the old agricultural way of life, not only in our valley, but all across the nation. Hispanic families, long on the short end of the economic spectrum, looked to improve their lot by working for steady wages, often in cities and states far away from home. At the same time, well-off urban white kids initiated a migration back to the land, often taking up residence in the newly vacated places of city-bound Hispanos. To a large degree, this describes Cynthia’s trajectory that led, much later, to my living there on the side of Cerro Gordo, pulling weeds and eating fresh tomatoes. Nowadays, the non-millionaire cannot dream of buying a house or a plot of land in that valley on the east side

of Santa Fe. In this light, an acequia in such a neighborhood seems more like a quaint, disconnected, sentimental vestige, like the horse-and-buggy teams that roam the grounds of high-end resorts, than an actual tool of daily survival.

But the fact remains, we all need water to live. And some people—many, even—still depend very much on the water delivered by acequias to survive. Compounding the shortage of an ongoing drought—2002 was the driest year on record in Northern New Mexico—Northern New Mexico is in the grips a golf-, Indian gambling-, high-end gated-community-driven boom. Irony, it seems, is not the exclusive province of Anglos. Because a good portion of this development is taking place on Pueblo land, and Indians inevitably enjoy the priorest of appropriations, it is hard to stop much of the development on grounds of water law. The golf-gambling-gated community juggernaut represents a general insurgency against traditions and imperatives that tie people to their particular landscape; it's a “life is one big game” view of the world. In the face of this conceit, the continuity of the acequias serves in some small way to reinforce the inevitable truth that life depends on land and water.

4. Water in the West: Crossing Uncharted Territory

As communities and acequia associations in New Mexico struggle to maintain ties to the land, almost everywhere the land itself is untethering from its own longstanding traditions. With something approaching taxes-and-death certainty, global warming scientists say that much of the West will—already has—become much warmer. It is

much less clear which parts of the West will also see change in annual precipitation, but what's certain is that less of it will fall as snow, and the precipitation that does fall in solid form will remain in that form for shorter periods. This news has big implications, implications that precious few are willing to face.

As winter snows melt faster each year, the sustained inflow from the mountains that much of the West depends upon will no longer be dependable. The great reservoirs on our rivers were designed as minor end runs around facts of the hydrological cycle. The real water-storage device comes in the form of high elevation snowpack. We can't build enough dams to equal the water storage of the high country. As the winters shorten, the mountain water will flow by un-captured. Whether the inevitable warming trend is marked by more or less precipitation, the availability of water will in both cases suffer.

The unmitigated, profligate water-loving boom in the West mirrors the nationwide SUV craze in the face of a dwindling, geographically limited, conflict-laced oil supply. Something in our makeup seems to crave speed as the brick wall looms. But, as many have noted, the wars over oil could seem tame in comparison to the probable conflicts over fresh water in an ever more crowded world.

In effect, nature is forcing our hand, showing us the limits we have resisted seeing. In the face of shortages, and the ongoing degradation of the water we do have, it seems all the more important to maintain the precious points of contact with real water. One of those points of contact is the acequia, the seasonal attendance to the patterns of flow in the landscape, altered as those patterns are. Muddy hands on shovels, cold water flowing over our feet, water regains its meaning on the human level, the level ignored by

giant concrete dams, golf courses and subdivisions. We live by water, directly and inarguably. Remembering this, we may have a prayer of bridging the hard times that surely lay ahead.

Earth Day

During a springtime of high water Arizona's upper Salt River draws a crowd of river people from across the West. Here begins the annual, northward-advancing, floating season. The spring of 1998 was just such a spring, and I had gone to the Salt for a weeklong trip with friends.

Our journey began at a highway bridge where the river initiates its carving descent from the Mogollon rim and the mountainous lands of the San Carlos and White Mountain Apache on the eastern side of the state. It drops steeply from the ponderosa and pinon country of the highlands, exploding into howling rapids in some sections

where the constant force of water streamlines the hard mass of granite and quartzite into deep canyons.

The river flowed high enough to make the whitewater formidable. In late morning after our third night out we reached a sweeping bend where a side stream, Cherry Creek, meets the Salt from the northwest. Here, the river has descended out of the mountains and into true lowland Sonoran desert ecosystem. Saguaros populate the hillsides in variform postures like a rag-tag company of misfits. On the crumbling slopes above the river they appear, sprawled against rocks, some sagging away from the slope, some many armed and flailing, others stiff and upright, frozen in a perpetual stick-up. The wide sandbar at the inside of the bend drew the ten of us to set an early camp.

We tied our boats tamarisk thicket at the water's edge and scurried to build an arbor for shade. After a late lunch, my friends scattered in various directions to nap or walk, I decided to row one of the rafts across the enormous eddy to the mouth of Cherry Creek. From there, a mile or so up by foot, a ridge top ruin, remnant of the Hohokam culture of eight hundred years ago perches above the confluence.

I picked my way up the hill among the rocks and bushes, careful to avoid contact with the constellated thorns of teddy bear cholla, which all but jump out at you if you get within six inches. In this desert, every living thing is armored against the sun and wind, against thirst and other creatures. The stark landscape betrays electric vibrancy—the connections in the web arc together more brightly, more desperately perhaps, than in other environs. With eyes closed, the volume and variation of birdsong and the buzzing of insects puts you deep in the Amazon rather than in one of the driest places on the planet.

On the crest of the hill, a thousand feet above the river, I circled around the structure and touched the stonework, still fitted together as it had been laid centuries ago. Cylindrical and simple, with a couple of window openings, in another context it could be an ascetic's chamber. During Hohokam times, though, this landscape was knitted through with social threads, linking outposts like this to others in the surrounding distance. This building may well have served as a visual link between distant pueblos in that network.

Looking eastward I could see the edge of the Mogollon Rim and the deep chasm we'd navigated in the days before. To the west hung the pall of the Central Valley, swelling minute by minute with the busy-ness of my fellow countrymen and women. In that sprawling cityscape, water sucked out of desert rivers—the Salt, the Verde and, over two hundred miles west, the Colorado—fills numberless swimming pools and greens endless lawns and golf courses. Beyond Phoenix, the Salt and the Gila emerge limpid and brackish from agricultural runoff, trickles of lifeless water.

Despite our nearness to this bustling urbanity, we had seen few others on the river, and now I was completely alone with the ruin. I breathed in the clean sense of solitude in a near-primal landscape. The river slid along far below, audible as a dim hiss in the wide, hot silence. I penned some notes, and pressed some purple flowers between the leaves of my journal. Thinking back on that time, I suppose I must have felt privileged—lucky, at least, to briefly own the view from that isolated hill as the sun slipped lower in the sky. The earth, with its six billion humans tirelessly drilling and burning and cutting and killing, the oceans, the forests, the mountains and clouds and

icecap, and every great and lesser thing we encounter, especially each other—I knew all of these things, but just then those worries escaped me. In the comforting evening grace of that wild place mourning, for anything, was the furthest thing from my mind. I had no way of knowing that, two thousand miles away, another lover of Earth, a friend and mentor, was preparing to take his own life.

Aldo Leopold famously noted that an ecological education dooms one to live alone in a world of wounds. If that's true, then I suppose my education began at an early age. As a kid, when adulthood was an unimaginable mountain summit obscured by clouds, I asked my father a big question.

“Dad,” I asked, on a drive through the canyon route to Taos, “will there still be mountains when I grow up?”

Kids ask the damndest things, he must have thought. The car sped up the highway snaking along the edge of the Rio Grande. Great basaltic slopes of black rose over a thousand feet above and crowded the road against the river.

Twenty-some years later, I am well within the clouds. And I can attest to the continued existence of mountains. I live next to some in western Montana. But since I asked that question, many things nearly as immutable as mountains have gone missing from the natural world. I was lucky to roam the foothills and arroyos on the east side of Santa Fe and witness creatures: quail, fox, bear, deer, roadrunner, spadefoot toad, Pinon jay, and my favorite, the horny toad—I encountered them in their native habitats. I

sought them out, wrote about them, dreamed about them. Later, in mountains and canyons throughout the Southwest, spending time in high aspen groves among elk and mule deer, I found secret streams above waterfalls that held pure strains of native Colorado and Rio Grande cutthroat trout; walked among thousand-year-old petroglyphs under the watchful yellow eyes of great horned owls. The last wild grizzlies south of Yellowstone run in the South San Juan Mountains. I have yet to become any kind of skilled naturalist, but I know enough to relish the diversity of other life I encounter, and to recognize its fragility.

Through all of this, I was never away from powers that threatened everything I love. At night, the lights of Los Alamos National Laboratory, the nation's premier bomb factory, winked their menace on the western horizon. Many of the creatures I had known early on disappeared, along with their habitats, in the wake of the incursion of house cats and homes and people. The irony of learning about the natural world is that the more you learn, the more horrifying and hopeless the future prospects usually seem.

Love of wild things drives us to uncanny acts. Several years ago, as I stood in the driveway of what was then my mother's home in Santa Fe, a pair of horny toads came scurrying across the sidewalk, dangerously near the street. At that moment, I had two choices. I could set about killing every cat within a two mile radius—dirty, ultimately futile and legally questionable work. Or, perhaps nearly as futile, but more hopeful, I could relocate the pair. I managed to catch them both, one in each hand, and banged on the front door with my foot till someone let me inside the house. I put them in a shoebox, like I did as a kid when I wanted to examine the really cool big ones I found, and drove

them miles south of town. I let the two little critters go in a new, slightly less populated venue, with best wishes and hopes for a future, theirs and ours.

But if I had a hard time hewing to the heartbreaking ecological realities of a human dominated planet, it was nothing compared to what Michael Perlman endured.

I met Michael in the fall of 1996 in my final undergraduate year at Vermont College. There, students attend a ten-day intensive residency each semester and work closely with a single professor—advisor was the preferred term—during the residency and then for the remainder of the period, communicating by mail. Michael was my advisor for both semesters of my senior year. I worked on writing: fiction in the fall term, personal and historical essays around the subject of water and rivers in the West for my final spring project.

Michael was in his late thirties at the time. He had earned a doctorate degree in psychology and religion from Boston University. A practicing psychologist with a background in Jung, Michael had a special interest in the emerging fields of ecopsychology and deep ecology. Trees were his passion. They spoke to him like rivers speak to me. Along with some others he helped to found the Eastern Native Tree Society, an organization dedicated to mapping and preserving ancient forests and to identifying the largest and oldest individual native trees throughout the eastern forests. I remember a talk he gave at the college about procedures for measuring the height of trees in the field. He drew diagrams on the chalkboard and told about large trees he had found and measured the summer before in the Smoky Mountains. Every chance he got, he had

students outside under the maples and elms of the campus, in the shade of their wide crowns. His business card features an American elm; his email address: mptree.

The first time I met Michael the students and faculty were gathered and each was asked to stand and give a short introduction. Michael, a quiet man with a shy nature, rose and spoke in a very heartfelt way that captured my attention.

“It has taken me over fifteen years of graduate study and post-graduate experience,” he began, “to figure out how to talk about what’s most important to me. I have a tenacious—some would say plain stubborn—belief that intellectual exploration can contribute to the repair and betterment of the world.”

Michael believed in the powers of imagination, and in the intersection of those powers with the facts and experiences of the world. He believed that humans, through intellectual and imaginative avenues, could engage the heartbreak of ecological and cultural devastation in a way that both honors and begins to heal. Michael spent a great deal of time investigating people’s responses to cataclysmic events.

His interests brought him face to face with pain and suffering. When we met, Michael had just completed *Hiroshima Forever: The Ecology of Mourning*, a book that looks closely at how the first atomic bombings are memorialized in the collective mind. In his private counseling practice, he worked with the chronically psychotic. In the wake of the Murrah Building bombing, he traveled to Oklahoma City to talk to survivors and witnesses. His first book, *The Power of Trees, The Reforesting of the Soul*, deals with the psychological place of trees in our lives, as symbols of connection and of loss. In writing

it he visited with dozens of survivors in Florida and the Georgia shore in the aftermath of Hurricane Hugo.

Michael was enormously troubled by the overwhelming evidence of Global Warming and the public's seeming indifference to it. He consistently called it Global Heating, to counteract the pleasant connotations warming implies, and wrote editorial pieces on the subject that appeared in the LA Times and Boston Globe.

Behind his shyness, Michael harbored a sharp instinct for humor, kind of a lifeline, I suppose. He rarely missed an opportunity to pun. As we got to know one another better, Michael proved to be a great teacher and friend. He was the gentlest, most utterly genuine person I have ever known. His deference and soft voice concealed a cutting intellect. He loved puns and was often reduced, wonderfully, to doubled-over fits of laughter. I remember him leaning back, arms curled up at his sides monkey-like, letting out a hilarious yelping cry—his version of a yodel.

“It is 8:15 in the morning of August 6, 1945, the time when the atomic bomb exploded over Hiroshima. And it always will be.” So writes Michael Perlman in his book *Hiroshima Forever, The Ecology of Mourning*. Tragedy has the power to stop time. Events change the flow of lives like boulders tumbled into moving rivers. Smooth waters crash up against the stone. Particles of rock are carried off and sometimes ride suspended in the flow for miles downstream. A day after returning from the Salt River a friend

phoned me to say that Michael had died suddenly on Earth Day, the day I'd spent at Cherry Creek, at his home in Williamsburg, Massachusetts.

In the days following his death, it became clear that he had killed himself by a lethal combination of drugs and alcohol. I spoke briefly to some of my other classmates, but shied away from contact with his family, whom I had never met. I read over letters we'd exchanged and opened a couple of books he'd given me: a copy of his book on Hiroshima signed "To John, For The Earth," and Gary Snyder's 40-year poem *Mountains and Rivers Without End*, a gift at graduation.

I don't presume to know the absolute why of Michael's death. I know he lived by himself and may have felt loneliness beyond what Leopold describes. I also know he grieved over the lack of interest by society in any serious reflection aimed at bettering the world. I remember his anguish at the attention given to the O. J. Simpson trial while nobody seemed to care about the U.S. government's effort to expand Cold War relic NATO into the former Soviet Bloc countries. He saw everything, and most of it hurt. Yet he also saw so much opportunity to speak up about what really matters in life, to try to do something about the real threats to our future. Despite his faith in the redemptive powers of imagination, he may have grown hopeless, unable to imagine the many things that troubled him could ever change for the better.

In *Hiroshima*, Michael writes about the process of "psychological commemoration," which, in simple terms, attempts to give life to the images of the lost

by “placing” them in one’s memory. He writes, “After we have housed in memory images that sadden us, these figures continue to live in their houses even though our attention is far more frequently focused on other affairs. Having been housed, they abide with us even when we do not notice. They are now in place, cared for and attended; though we may return to them, and they to us, their remaining housed in memory does not require our constant, or even frequent, recollective attention.” He lamented that the U.S. resists housing the honest images of Hiroshima. A 1994 Smithsonian exhibit featuring a watch stopped at the time of detonation was canceled because of protests from politicians and veteran’s groups. Denial causes us to incorporate and perpetuate what we seek to deny.

In the four years since his death, I have struggled to achieve a fitting memorial to his life and what it meant to me. I planted a couple of trees—a serviceberry bush and a limber pine—at a mountain spot in New Mexico. After witnessing the forests leveled by Hurricane Hugo, Michael wrote, “There was sun where shade and shadow should be.” Later in the same chapter, he writes about the place of trees in memorializing loved ones. A family member of someone he interviewed had died and at her request, “the family buried her ashes under a tree in the family’s small cemetery plot [where] the tree would take them up and make them part of its life.” “Here,” he adds, “is a memorializing and witnessing of human life...Death lives in trees, where it becomes the heartwood of survival.” Michael, it turns out, requested that his ashes be buried under a giant yellow birch tree on a mountain in Western Massachusetts.

Outside the windows of Michael's home grow some grand, ancient maple trees. He cherished those trees and spoke of them lovingly in many of our phone conversations. I know that they were an inspiration to him. He died sitting at his desk, facing away from the window and the trees outside. Carol Duke, his neighbor and friend, said, "I don't think he could have taken his life if he was looking at them. He had to turn his back to them."

During my year with Michael, I wrote in one of my essays that the welcoming back of ancestors' spirits in the form of rain clouds--a practice in many of the Pueblos of the Southwest--is the "reverent internalization of the life of rivers." I remembered that passage recently, looking at the stepped hillsides above Missoula, Montana, where I now live. These striations are the signature of a water body ten thousand years old. Glacial Lake Missoula filled this valley and emptied up to forty times at the end of the last ice age, inundating and then draining from much of western Montana. Its shorelines are still visible, in places punctuated by the downward paths of living, flowing water, some of the same water of the ancient lake returned as today's rain and snow. The glacial lake is still with us—I drink its waters—waters that yet animate its subtle hillside perimeters. In its way, it memorializes itself.

Divided Fire

Aim your eyes west from Santa Fe, New Mexico, any evening as the sun lowers behind the Jemez Mountains and you look into the ancient face of fire. A cataclysmic explosion a million and a half years ago left the mountains as they now are, a caldera that describes a huge circular, uplifted boil on the land. The round, feminine profile of today's Jemez, the camel hump of Redondo peak and the open-sloped forest fire clearing of Chicoma, sacred promontory to many native Pueblos, are the remains of a mountain that once towered twenty thousand feet higher. Parts of that peak now repose on the plains of Kansas.

These mountains became to me, growing up in Santa Fe, as familiar as the faces of my siblings. As a young boy, I looked out from my window at the tall flames and smoke of a large wildfire that burned for weeks. Before the current era of fire suppression, ecologists believe the Jemez burned continuously, so prone to fire is that particular landscape, and so adapted to it is its forest ecosystem.

At the age of fifteen I hiked for days with my friend, Josh, and camped in the deep, ruin-filled canyons of Bandelier National Monument on the shoulders of the Jemez. Two rebellious searchers, we ransacked the world for some meaningful purchase, and were drawn to the landscape. The place names called out to us, enchanted us, seemed like guideposts in a world ancient yet unknown: Ceremonial Cave, Painted Cave, Alamo Canyon, Tyuonyi, Tscheringe, the Shrine of the Stone Lions, Capulin Canyon, Frijoles Canyon, Pajarito Canyon. As we explored, I imagined looking through the eyes of the Anglos who first plumbed the canyon depths for their ruined treasures, men like Adolf Bandelier, Charlie Lummis and others. Nights, Josh and I talked around a small fire we thought of as the kind the old Indians might have made, its modest light and warmth contained in a shallow hole we would carefully seal over next day, leaving no trace.

Then it felt good to lay out under the bright stars after a long day of exertion. We were young and among ghosts, perhaps, of our surroundings, ghosts of a landscape familiar to human struggles and striving, at last to drift off to sleep satisfied in some simple, gemstone way I even then recognized as precious. The gift of being let loose on the land.

From the altitude of the earth-orbiting satellites, the Jemez mountains (pronounced hay-mezz) describe a blocky, dark colored, uplifted conglomeration on the western flank of the Rio Grande. The mark of fire appears as a near-perfect circle of ridges with a number of distinct hills within.

On the eastern edge of the caldera, a broad, canyon-cut shelf of volcanic rock known as the Pajarito Plateau stretches out toward the Rio Grande. The canyons, the southernmost of which I began exploring as a teen, radiate out like a half corona of dark beams emanating from the great crater at the center. It is a landscape of hidden histories. Each chasm, and the accompanying mesa at either side, is dotted with ancient habitations. The tuff of the canyon walls, a soft volcanic rock like pumice, lends itself to excavation, and some areas—like Frijoles Canyon, at Bandelier, or Garcia Canyon, further north--feature dozens, sometimes hundreds of caves.

In others, sprawling stone-walled villages lay mostly buried, grown over with cholla cactus, straggly junipers and the night-flowering datura. These are the remains of the Anasazi, ancestors of today's Pueblos, who inhabited the Plateau a thousand years and more ago. Look down on nearly any given piece of ground and you'll find pot sherds, the scattered, shattered remains of ceramic vessels. Few landscapes in North America, let alone the world, are as rich in the evidence of human occupation.

I have often meditated on this particular spot on earth, the Pajarito, and the implications of chance and fate. It is impossible to stand on the strikingly beautiful, hallowed ground of the Plateau, say on a bright afternoon in fall, looking across the wide Rio Grande valley to the Sangre de Cristo peaks shining in the falling sun, and not be

stunned. Bureaucracies however, such as the committee that was charged with finding a suitably isolated and secret spot to locate Project Y of the Manhattan Project, the effort to build an atomic bomb, operate at a cold remove from the emotional upwellings inspired by landscape. If not for chief researcher Robert Oppenheimer's personal connection to the Pajarito, the bomb would surely have been conceived elsewhere. He recalled the impact the landscape had upon him on a childhood visit to the Los Alamos Boys Ranch. The experience kindled in him a desire to explore the mysteries of nature that led him to a life of science. Remembering that visit, Oppenheimer advocated for the research facilities to be located at the Boys Ranch. The views, he hoped, would aid the scientists in the considerable challenge of transcribing theoretical abstractions into the world of flesh and blood.

And so the handful of Hispanic and Indian families who lived and ran stock on the 45,000 acres the government condemned for the lab found themselves displaced with little comment or compensation. The Army notified the head of the Boys School of their requirement for the property and, he being a well-connected white man, negotiated a substantial buy-out with a couple of months' time to finish the semester. The government swept in with a battalion of construction workers, scientists and their families not far behind, in February of 1943. At that time, New Mexico had been a state for scarcely thirty years.

There on the edge of the ancient volcano, a million and a half years after the cataclysm that brought the mountains to their present, humbled profile, the men of science set feverishly to work. Their charge: to create a weapon that would deliver us

from war. Through some trick of magic and hubris not seen since Prometheus, they resurrected a piece of original fire and brought to light an emblem that is emblazoned upon the genes and tissue, if not the consciousness, of every person and living thing on earth: the mushroom cloud of atomic night.

For years, I lived in a house in Santa Fe, the terraced, garden-covered yard of which featured an odd remnant of the atomic age. A dozen cup-shaped gongs hung by chains, touching one another and sounding in the wind, a giant chime constructed of surplus parts of nuclear warheads by the artist Tony Price. For years, a madrigal round of their sustained ringing followed me to sleep.

It is the summer of 1997, and I'm talking to Milton Gillespie in his dining room, just off the kitchen I have for the past several weeks been remodeling. His low-slung bungalow sits among pinon and juniper trees, well away from other homes on a quiet residential street in White Rock, New Mexico, a bedroom community for the laboratory at Los Alamos.

I like Milton. A compact man in his mid-sixties, he sets about his daily life like a seagull in a rain squall, wholly unperturbed by the commotion I am creating. He clearly loves the outdoors and this beautiful part of New Mexico, his house a mere stroll from the black rock precipice of the Rio Grande rim. An avuncular figure in shorts and hiking shoes, always expounding grandly about his next river trip or "boy, I remember when I

did something or other,” his gregariousness is a departure from the other lab workers I’ve met. He seems, above all, imminently sane.

Milton is a retired engineer, a demolitions expert, and today, as I set about hanging a kitchen cabinet, our subject is his work with Los Alamos National Laboratory and the development of the nation’s nuclear arsenal. I find out that he played a role in designing the nuclear detonations at the Nevada Test Site. “I was part of every one of those explosions for thirty years,” he says, a hint of swagger mixed with the boy-like gleam in his eyes.

A veteran of the old guard, Milton earned his wings along with the first couple generations of atomic bomb makers. I recognize a hint of relish in his descriptions of those times, designing the shots that regularly sent shudders up the legs of Las Vegas gamblers as multi-megaton explosions ripped through the earth sixty-five miles away or, with the above-ground explosions, lit up the sky in false dawn, a foreshortened day, for hundreds of miles around.

I’ve read about the downwinders, Indian and Mormons communities in southern Utah where certain types of cancer crop up like concentrated plagues, and I wonder about Milton’s health after so many years around nuclear materials.

“Oh, hell,” he scoffs, waving down my inanity with his hand, “plutonium is no more dangerous than a cup of coffee.”

The substance on which the nuclear age is built, uranium, is a yellowish ore that occurs naturally in the earth's crust and is today its most abundant radioactive element, a remnant of the atomic processes that formed the planet billions of years ago.

Plutonium, however, is as unnatural on today's earth as Martian gravel would be, Earth and Mars having once been part of one thing, long since separated. If you picture the planet's formative atomic processes leaving a trail—wet footprints that gradually, over millions of years, evaporate—you can think of plutonium as a print in that trail that, until 1941, had disappeared. It was then that scientists recreated it in a laboratory in California, retracing some of the lost path to the beginning.

Plutonium, a metal named for a mythological representation of death, is essentially a resurrected piece of the earth's younger body. An element that acts like uranium on steroids, it comes into the world through the bombardment of a special form of uranium with a particular kind of hydrogen atom—a technique called uranium enrichment. This is a messy, expensive and energy-intensive undertaking, which is why the government chose a site along the Columbia river, Hanford, with its access to the abundant power of Grand Coulee Dam, to set up the main production facility. Fifty thousand workers labored for three years in the early 1940's to produce the 27 pounds of plutonium that the Trinity bomb and the bomb that exploded on Nagasaki, Japan, were made from. (The Hiroshima bomb, which was not as powerful as the others, employed uranium instead of plutonium as its catalyst.)

There are several different varieties of plutonium, known as isotopes, but plutonium 239 is the one used in the bomb because under certain conditions, if enough of

it is concentrated in one place it will sustain a fission chain reaction. In short, its atoms will split apart creating enormous amounts of energy. Under even more specific conditions a fission reaction becomes a gargantuan explosion of the nuclear variety. In either case, lighter, highly radioactive variants of plutonium called cesium and strontium, by-products of fission, linger for a long time.

If our earth came about as a result of atomic processes on the cosmic scale, why are we not glowing with radioactivity? To a generally unarmful degree, we are. Radioactive materials decay at a certain rate, different for each, expressed in terms of “half-life”—the time it takes for half of a given quantity to dissipate. The half-life of Pu239 is approximately 24,000 years. Only in the advanced waning half-life of these materials, the foundations of the material world, does the wholeness of human and other life become possible.

Beginning in the early forties and up until this moment, Los Alamos has churned out toxic and radioactive materials in stunning array and quantity. These materials lay scattered among dozens if not hundreds of marked and unmarked locations on the sprawling lab property. The 24 official material deposit areas are estimated to contain 17,500,000 cubic feet of waste varying from low level stuff like contaminated clothing to the highly radioactive byproducts of uranium enrichment. Many of these sites lie at the bottom of the canyons where the materials are available to wind and flood water. In one location, over 50,000 barreled containers of radioactive dreck huddle beneath the meager protection of a canvas tent. For most of these sites, the laboratory has no plans for clean up or containment. Despite the well-known environmental and national security dangers

of unsecured nuclear materials, so far in its life the lab has managed to lose track of nearly a ton of plutonium 239.

Which brings me back to Milton. I wondered for years about his crazy-sounding statement until I did some reading. The radioactive particles that plutonium naturally emits are called alpha rays. Though very fast moving, they only travel a quarter inch or so beyond the surface of the metal. If kept in small enough quantities so that it doesn't "go critical," i.e. begin a runaway fusion reaction, plutonium can be handled with a pair of rubber gloves, as it was during the forties. When Raemer Schreiber transported the plutonium core for Fat Man, the bomb dropped on Nagasaki, he carried it from Los Alamos to the Pacific Island of Tinian in a special, rubber-bumpered box like a small suitcase. Technically speaking, radiation generated by plutonium and depleted uranium can be blocked by a sheet of paper. That's all well and good, as far as it goes, but when you swallow plutonium, or inhale it, or otherwise find it inside your body where paper shields and gloves no longer apply, it causes irreparable cellular damage and cancer. Always. One millionth of an ounce lodged in the lungs will probably kill you.

So, in a way, Milton was right: whatever harm coffee may cause when you drink it, it's safe as can be so long as it remains in the cup. Some people even say coffee can be part of a healthy regimen when administered as an enema, but this is where coffee and radioactive material part company. Had I known these things that day in Milton's kitchen I might have offered that, whatever you may or may not do with coffee, it is specifically inadvisable to introduce plutonium to your anus.

In Milton's heyday the bomb held much of the public's imagination as a symbol of the technological prowess and dominance of the United States, and of the fearsome but ultimately secure prospects of a grand future, a future that pointed skyward toward space, other planets, potentials formerly the province of science fiction. In the decades just following WWII, the US, along with Russia and then France, conducted a series of above-ground tests. Since such obvious atmospheric calamities could in no regard remain secret, the media was free to advertise the power and spectacle. The following, from the March 7, 1955, Santa Fe New Mexican, represents a typical near-glowing review:

Las Vegas, Nev. — The largest atomic device tested in the 1955 nuclear series exploded today with a predawn brilliance that dazzled observers in New Mexico and other Western states. The blinding flash of the bigger than average A-weapon startled observers on a mountain peak 55 miles away and lit up skies.

In all, 928 nuclear detonations rumbled forth at the Nevada facility; of those, 100 were atmospheric, or above-ground explosions. The US exploded atomic bombs, over a hundred more in all, at other sites in Nevada, New Mexico, Colorado, Mississippi, Alaska, several Pacific Islands and South Atlantic islands, a kind of atomic diaspora. Many of these scattered explosions fell under Project Plowshare, an effort to develop "peaceful" uses for atomic bombs. Near Rifle, Colorado, a 36-megaton underground detonation in 1963 yielded 300,000 cubic feet of natural gas too radioactive to sell.

The frenzy reached an end, at least temporarily, with the enforcement of the Nuclear Test Ban Treaty in 1992. Yet the fallout continues. Those who lived directly in the weather path beyond the testing ground—most immediately the small towns and

Indians of southwestern Utah—suffer still. Those people, looking westward toward the flashes and grumbings beyond the horizon, simply didn't know that dozens of times a year plumes of radiation carried eastward by the prevailing breezes would end up in their lungs and food and drinking water, not to mention those of other creatures. The startling prevalence of certain types of cancer and other disorders, from autoimmune diseases to eerie birth defects, would finally bring the connection home.

Preston Truman, now 53, who grew up in Southern Utah and went on to form an advocacy group called Downwinders, carries the singeing flash of an atomic explosion as his earliest memory. He told the Salt Lake Tribune recently about sitting on his father's lap in Enterprise, Utah, as they viewed the mushrooming aurora of one of the eighteen above-ground detonations of 1955, perhaps the one the New Mexican reported. "We're children of the bomb," Truman told the newspaper. "We saw the flash. We heard the bangs. A couple of times, the shock waves broke out windows that they paid for. We got radiated and we got lied to."

For people like Truman, the tests became a fact of life like the weather, often inconvenient, often spectacular, but ultimately something to bear up in the face of and endure. Yet they, and the hundreds of thousands killed by the bombs and fallout from Hiroshima and Nagasaki, are just the most obvious victims.

Return to the beginning, try to picture that first blast at Trinity, the searing, blinding flash as hot as the center of our sun four times over, bounding forth into the sky

with the pressure of a hundred billion atmospheres. Trinity. The thing awakened before the dawn, 5:29 am, July 16, 1945, on a barren-looking spot in the central New Mexico desert, a place the Spanish had named “Jornada del Muerto,” the ‘journey of the dead.’ The men there gathered to test their work knew they had drawn close to the elemental churnings of the universe, but they could not ensure the outcome. They lacked absolute certainty the bomb would not ignite a reaction that would engulf the entire planet. No greater wager was ever proposed; they bet the whole world.

The ensuing ball of fire, risen and visible for 250 miles, became a seed that, once sown, propagated beyond all human control. The cloven atoms of that day, split and cast out to the four directions, threaten to tear apart the endless intricate relationships of the planet’s living web. Yet they also brings us together; linked as siblings, children of the bomb, we are all downwinders.

Imagine an umbilicus, an invisible cord, reaches around the world to all its billions of people, old, young, male and female. This cord stretches back to the circular, perhaps womb-like ring of the Jemez caldera, to the ancient canyons of the Pajarito, to the Lab. Through it, we receive the imprint of Trinity’s unholy resurrection into our very cells, the mark of nuclear material dispersed from this epicentral birthplace of the concentrated power of a divided sun. Picture the blinding instant of that first blossoming, which did indeed begin an elongated, globe-encircling chain-reaction linking the uranium mines of the Navajo Reservation to the Hanford reach of the Columbia River to Los Alamos to Trinity to the world-ending cataclysms at Hiroshima and Nagasaki, the poisoned desert blooms of Nevada, the flashes of nuclear light the Soviets loosed across

far Siberia, deep blue waters in the south Pacific doming up and vaporizing, over and over, propagating in dust and water, ocean currents and rivers and the singular breath of the planet winds that circle round in ten days, that we all breathe in, man woman and child, ice in the arctic, ferns in Amazonas, ancient fish in the trenches of the deepest reach of ocean, the half-life dispersal of split atoms gathers us all into a single wounded whole. The counterpoint of mutually assured destruction is mutually assured connection—our fates are knitted together.

My outings to the canyons of Bandelier were aimed, at least in part, at plying the depths of the contradiction of my home ground: how could something so thoroughly destructive of everything good have been conceived in a landscape so utterly beautiful, so appealing and inspiring. What causes us to work so diligently at destroying everything we hold precious? The outermost implications of the bomb seem beyond the power of individual understanding. Yet, at its most basic, and despite the neutralizing terminology of politicians and the scientists who work on it, atomic weapons reduce finally to the human penchant for hurting others, ourselves and the planet.

We, all of us, have grown expert at drawing lines, categorizing, delimiting the scope of our responsibilities and our interests. Soldiers simply carry out orders, judges act within a framework beyond their influence, corporate boards answer to shareholders. From behind these lines, we perpetrate terrible things on the people who may threaten us in some vague or well-defined way. They seem less human, faceless, beyond ken or

kinship. We justify our acts terms of neighborhood or national security—from the crushing of an offending arm to the rush to build a bomb—we marshal these lines around us, lines which prove in the end phantoms, illusory. What came to the rims and canyons of the Pajarito Plateau in 1945 was simply the perfection of our darkest potential.

So, the paired twins of our capacity. One brings clean light to the world, art, music of sadness and joy, wonder, and a surprising relish in the mere act of breathing. The other enacts horrifying, devastating, inattentive, and forgetful schemes.

In the Southwest, the myths of the original inhabitants speak to the human facility for black magic. When Joy Harjo, Native American poet and musician, was asked a question by an interviewer about the modern fascination with Indians, she answered, “When you were born in this country, you were born into the mythic structure of native peoples, the past history that has gone on, is still ongoing.” What does that structure say about human destructiveness? Our interconnectedness?

The Pueblo people have inhabited the four corners region and the Upper Rio Grande for at least two thousand years. Though the nineteen present-day pueblos in New Mexico, the Zunis, Acomas and Lagunas to the west, and the Hopis of now-Arizona are united by a shared culture, between them they speak seven different, mutually unintelligible languages. Walk almost any square mile from Farmington to Magdalena, Raton to Socorro, and you tread ground that was at one time occupied. This landscape, the birthplace of the atomic bomb, contains an almost palpable air of mythic structure.

The Hopi creation tale, which, some say, takes days to tell in its entirety, recounts how the people climbed into this world through a stalk of bamboo from a world below.

That world, the third one, had been ruined by sorcerers, powerful black magicians known as two-hearted people. The remaining people of singular heart decided to leave the Third World in search of a realm above they'd gotten wind of. To ensure a fresh start in this, the Fourth World, they endeavored to prevent any two-hearteds from making passage.

After the last person emerged through the Sipapuni, the doorway from the Third World, one of the children mysteriously grew ill and died. From this, the people knew their plan had failed; a two-hearted had made it through undetected. Ever more, the people would have to be vigilant for two-hearted mischief, for those of divided hearts work ceaselessly to undo the rightness of creation.

The Hopi people received their instructions for living here from Maasauwu, a deity of fierce visage, bloody teeth and a body covered with many-colored spots. Ruler of the Fourth World, of death and also of fire, Maasauwu taught the people how to grow corn, to live simply and humbly and not hurt one another. "There is a yellow substance in the ground beneath your houses," he told them. "Don't remove this substance from the earth or great harm will come to you."

We can think of myth as a feature of the landscape that changes, grows but does not diminish; it does not withdraw in half-life increments. Myths call forth metaphorical meaning that invoke truths that can't be expressed in other terms. The late San Juan anthropologist Alfonso Ortiz, a neighbor of mine in Santa Fe, explained that while it may be true that the Tewa emergence place, a lake in the north, can't be found on any map, it is not diminished in its actuality as a place. The point and time of emergence becomes

the ground on which you stand today. The world, moment by moment, transpires into being, its formative forces as accessible now as ever.

Los Alamos stands in the vicinity of, and in some cases on top of, thousands of ruins. Estimates go as high as 5,000 discrete archaeological sites on the Pajarito Plateau, an area roughly the size of, say, the Denver metropolitan area. The plateau was home to as many as seven thousand people during the 12th and 13th centuries. As the Anasazi preceded the modern Pueblos, ceremonies similar to those of today one might imagine taking place hundreds of years ago in the villages of the Pajarito.

The Pueblo of San Ildefonso, which sits nestled against the Rio Grande at the base of the plateau, provides a likely example of continuity. This Tewa-speaking village is organized around a calendar of ceremonies designed to bring the people into communion with the spiritual character—entities, if you will—of the land, sky, water and creatures of the surrounding landscape. The people hope to secure a good growing season, a good hunt, things that, in the modern context of on-demand groceries might seem less important, yet they are still carried out. In theological terms, San Ildefonso, along with the other Pueblos, might be seen as a community organized around mysticism, the direct experience of the divine.

A yearly ceremony at San Ildefonso in early January hints at such direct connections to the landscape and its mythic foundations. In the dim predawn chill we stand at the eastern edge of the pueblo among a scattering of other faces, a few non-Indians bundled up against the cold. As the sky lightens we see the outlines of two short hills and a stylus of smoke from a small fire rising behind them. We smell the pungent

cedar smoke from other fires in the houses of the village, from which Indian women emerge wrapped in blankets and shawls to stand nearby. Everyone waits. After a while, figures appear against the sky at the tops of the hills, two lines of stooped dancers wearing horns of antelope, buffalo and deer. They zig-zag slowly down the rocky slopes and into the village plaza walking with stick legs held in their hands. This scene has been repeated for hundreds of years, and those enactments flow together in the silence of the cold and growing light. In the flat dirt of the plaza grows a single, ancient, gnarled cottonwood, witness to centuries of dances. On the nearby highway, Los Alamos workers flow by on their way up the hill, perhaps unaware of the unfolding world in which they are included.

The physical centerplace of Pueblo spiritual life, modern and ancient, is the kiva. In most cases, a kiva is a circular, mostly subterranean room reached by a ladder descending through a hole in the flat, earth-covered roof. After the animal dancers descend from the hills and make their way through the plaza, they disappear into the darkness of a kiva. Inside, the initiated enters a sacred realm, an interface between this world and others, the realms of the physical and the spiritual. In the floor, a small hole represents the mythological place of emergence. Here, the very powers that underlie the physical world are accessible; the winds and waters, cold and warmth, the daytime journey of the sun, the monthly changes of moon, all the growing things upon the earth are present as constituents of a universe in which humans are another, equally integral part.

Yet, in the kiva, one is neither in the world above, nor in the world below. All the things of the universe gather in a special, third space, where magic and communion with fathomless mysteries is ever more possible. In Hopi kivas, beans sprout by firelight while winter grips the world above. This stirring of seeds by a constantly tended flame quickens the spring, the return of spirits that govern growing things. In the Hopi villages, in a ceremony now closed to non-Indians, kiva priests gather snakes of all kinds, including rattlesnakes, and bring them into the kiva. There, I imagine the people and the snakes holding counsel. The snakes reveal secrets from within the earth only they can know, living as they do. Perhaps this knowledge, sought from the mysterious beyond-human realm, helps the people of the villages to formulate their ceremonies, fine tune their communions with the mythic structure of the land.

A friend of mine who has spent decades in close contact with the Pueblo people of the Northern Rio Grande told me a story. When the Army came to the Pajarito in early 1943 to start building the lab facilities, a great deal of research had already been done by other agencies regarding the archeological treasures of the area. It was no secret that nearby pueblos, San Ildefonso and Santa Clara in particular, regarded many of the ruins as their ancestral homes. Ruins dotted the mesa where the Army intended to build the main installations. Among those ruins, a delegation from the pueblo came to the site and pointed out a great kiva, a particularly large and important sanctuary. “Don’t build anything on this spot,” they said.

On the very piece of ground occupied by a millennium-old great kiva the Santa Clara elders had warned against disturbing the government built the main atomic laboratory.

That was just the beginning of the insult. Manhattan Project scientists came to refer to the buildings where they performed certain critical experiments as “kivas.” An installation called Technical Area 18, the laboratory’s Critical Experiments Facility, includes three buildings, labeled Kivas 1, 2, and 3. There, one would not find beans sprouting in the warm glow of firelight, or prayers spoken and songs intoned to honor and reinforce the communion of all things. Instead, these “kivas” are the crucibles of the most destructive tools humans have ever devised.

Los Alamos has never had a reason to reimagine itself. Though the rationale underlying its mission has changed, the mission itself remains the same: the production and perfection of nuclear weapons. The Los Alamos city council thunderously rejected a recent effort to locate there a monument to the dead at Hiroshima and Nagasaki, a gesture of reconciliation in hopes that history won’t in this case repeat. Los Alamos National Lab, and the community that surrounds it, is itself like some mythical creature created to do humans’ bidding, but one which has turned the tables on us. It grows and grows, demands more each year, and eats only treasure funneled into its gaping maw from the Department of Defense. Every year, as its appetite expands, its handlers discover further rationales on which it can feed. Now, in the first decade of the 21st century, this creature

dominates the economy of an entire region. It employs 10,000 people, in jobs ranging from atomic physicists to janitors. Unsurprisingly, most of the lowly jobs fall to Hispanics, and some Indians, who commute in from the Espanola Valley and elsewhere, but those communities have also come to depend on LANL's steady employment. In the year 2005, it will gobble up \$2.5 billion in federal funds.

It has been years since I quit working on "the hill," as locals refer to Los Alamos. I struggled to reconcile my feelings working in the homes of people, many of whom were perfectly kind and generous, whose life's work I so resented. I came to hate going up the hill everyday, seeing the beautiful white-rimmed ridges covered with sterile, industrial buildings and concertina wire, the equally sterile town so unlike any other community in Northern New Mexico with its trimmed lawns and RVs, the seemingly disproportionate number of churches, the definitely disproportionate number of cops and security personnel, the video cameras always watching, and, perhaps most of all, the nagging sense that I was endangering my very health being there.

Yet, the conundrum I identified as a kid gnawed on inside me. A couple of years after I made my last remodeling foray up the hill, I saw an opportunity to speak to a current worker at the lab and maybe gain some light on the insider's perspective of today. So, I wangled my way into a dinner invitation at the home of a Los Alamos physicist, Gerard Jungman, a friend of a friend.

Jungman displayed the spreading waistline and slightly unkempt, untucked look of the average, middle-aged white American guy. His house seemed a cross between a dormitory quarter and a physics library; a large living room was dominated by a full-size

pool table, stacks of books crowded around a couch and a lazy-boy chair in another room, a couple of electric guitars leaned against the wall. We sat in his backyard in White Rock, drinking beer and barbecuing burgers, listening to the typical suburban sounds of dogs barking and kids playing in the adjacent yards. Jungman spoke with surprising candor about his work in T Division, the theoretical arm that supports the work of X Division, where nukes are forged.

“What’s your take on Stockpile Stewardship,” I ask Jungman.

“Most people know that it’s a farce, an invented thing to keep the lab funded,” he said. “In the early nineties, after the fall of the Soviet Union, when people were talking seriously about changing the mission of the lab, there wasn’t enough political will to do it, and then Stockpile Stewardship came along. There’s really no way to fund the lab than with DOD money.”

When the US signed onto the Nonproliferation Treaty in 1972, we already owned over 10,000 nuclear weapons. Since the signing of the treaty, and until very recently, all of the weapons-related work at Los Alamos and the nation’s other nuclear laboratories has been carried out under the rubric of “Stockpile Stewardship,” which mandates that the lab ensure the ‘safety and reliability’ of the nation’s nuclear arsenal. The stewardship ruse is really a way to keep designing nuclear weapons in an era of disarmament treaties, when the Cold War rationale for nuclear deterrence no longer applies. The whole point of having so many weapons was to ensure that using them would be the final human act on earth.

“The problem with Stockpile Stewardship is that people don’t really understand these things.” Jungman explained, growing adamant. “It’s like your car--you know it works, but you don’t understand it in all of its parts. Sometimes it breaks down. Plutonium is a highly unstable metal. Because of the Heisenberg principle [of uncertainty,] computer modeling is very limited. It used to be, they’d just pick a device at random and fire it off [in Nevada,] do tests and see how it performed. Eventually, they’re going to have to start testing again.”

This possibility, along with the full-scale resumption of bomb-making, seems all the more imminent. In 2000, Paul Robinson, the director of Sandia National Laboratory, another defense-related laboratory in nearby Albuquerque, circulated a plea for changes in the nation’s course titled “A White Paper: Pursuing a New Nuclear Weapons Policy for the 21st Century.” In it he all but begs, under the umbrella of national security necessity, for the legal means to develop tactical nukes. These are small bombs that, the theory goes, would find use without triggering the Cold War scenario of worldwide destruction. Lucky for Robinson and Los Alamos, the new administration heard his plea and, in the Defense Authorization Act of 2004, undid the 1994 ban, opening up the way for a new era of nuclear research.

I ask Jungman if he is anti-nuclear, and his tone is dismissive. “Fission is simply a natural process, neither good nor bad,” he says. “Now that we have the bomb, we can’t go back.”

“I suppose so,” I say. “But, do you ever feel at risk living here and doing the work you do?”

“I’ve seen some things that really make me nervous,” he admits. “Like a guy in a glove box [an unwieldy device for handling plutonium parts] taking pieces apart with a hammer and a chisel. I was not impressed. And issues like the plutonium runoff [from the contamination of various mesas and canyons on lab property] really just make me angry.”

“The carelessness makes you angry?” I ask.

“It’s really a legacy problem. A lot of this stuff is from 40 years ago, and people just didn’t know. There’s a degree of arrogance involved, and an unwillingness to admit mistakes, or even the possibility of mistakes. Like the speed at which plutonium is migrating down the canyons--a computer model says three inches a year, and they go out and measure and find out it’s 300 inches a year. They can be off by two orders of magnitude, and they need to understand that.”

Predicting the behavior of plutonium may be somewhat like predicting the action of a wildfire, and in May of 2000, these two famously unstable forces threatened to join. After a very dry winter and in the midst of an especially windy spring, what was intended to be a controlled burn set by the Forest Service in nearby Bandelier National Monument grew decidedly out of control. Within a couple of days the Cerro Grande fire, as it was dubbed, had grown to tens of thousands of acres and was being wind-driven to the northeast, right toward the lab and town. In Santa Fe, I watched from the rooftop of

my house as flames two hundred feet tall leapt skyward. I saw individual trees instantaneously erupt like hundred-foot Roman candles. The smoke and heat swirled up above the mountains, creating an anvil-shaped churning cloud arching heavenward far higher than the ancient mountain peak once stood.

This was not like the fire I saw as a boy. For one, it was bigger; it seemed willful, unstoppable. Also, I now knew about the thousands of drums of waste and the untold contaminated acres on the lab property, directly in the best-guess path of the fire.

Throughout the ordeal, the lab spokespeople projected a façade of competence and assurance. “Our emergency teams are well-trained to handle the situation,” they calmly stated, in cold bureau-speak. “We are monitoring the smoke plume for radioactive contaminants, and there is no threat to public health beyond the usual dangers posed by wildfire smoke.” I, for one, didn’t buy it. The whole fucking place was about to be engulfed by a fire no tanker or slurry plane could get near, and no official contingency plan could change it. On the day the sprawling front of the fire moved decisively onto the lab grounds, the wind pulled around and began blowing the thick, choking smoke plume right into Santa Fe. My family, some friends and I took that as our cue to head south to Albuquerque in case the worst became a reality.

In the end, thousands of acres of lab property, but only a couple of little-used buildings, burned. The blaze advanced within a mile of the tent-covered barrels, but turned at the last minute. It had been a surreal, apocalypse-tinged week. I later spoke with a Forest Service firefighter who was with a hotshot team called in to LANL property when the lab conceded that the situation was too big for them to handle alone.

As if the considerable dangers of wildlands firefighting coupled with the presence of radioactive materials were not enough, he told me, his team had to operate under the eye of sharpshooters posted to defend the lab from security breaches. Jeremy was on a crew cutting a fireline with chainsaws when they inadvertently crossed into restricted territory and were met by a group of guards armed with machine guns. At this, his commander told the Lab they could either quit treating his crew like an invading army, or fight the fire on their own.

The town of Los Alamos fared worse. Over two hundred homes and the whole front side of the mountains burned up in a wide, north-south swath. Remarkably, nobody was killed. For nearly a week, hotels, living rooms and gymnasiums in Santa Fe teemed with Los Alamos evacuees who could do nothing but watch as their homes and cars and belongings went up in smoke.

For the displaced lab workers and the town's residents, for the people of Taos and Espanola and Santa Fe who stood by in amazement, some imagining they might be witnessing an American Chernobyl, the world upended. The fire erased houses and buildings, transformed neighborhoods into collections of lonely chimneys and car skeletons and charred, smoking tree trunks. But for the absence of charred bodies of children on their way to school and the frozen silhouettes of mothers and grandmothers, uncles and fathers, and though it was thought by many but not said at the time, the burned part of Los Alamos looked like nothing else on earth more than Hiroshima at 8:15 on the morning of August 6, 1945.

A brush with disaster often brings about a renewed aptitude for objective clarity. When a tire blows and you skid toward the precipice, stopping just short of the final plunge, you likely take stock and depend more in future on good rubber and attentiveness to air pressure, the proximity of cliffs and reasonable speed, than on a vague sense of luck, destiny and entitlement. Our country, and especially our government, seems to lack a sense of irony that might lead to clearer thinking.

After the fire was finally out (it took well over a month,) the usual business resumed in short order. Rather than look at larger issues, such as the disrupted pattern of natural burning in the Jemez, or foolhardiness of building houses in the forest, or the willy-nilly legacy of radioactive waste on the lab (there's that cliff!), blame immediately focused on the poor sap in charge of the burn that jumped its tracks. The irony, of course, is that fire, like nuclear weapons, is a force that operates in a complicated, intricate, ultimately uncontrollable world. It comes down to where you build fires, for what purpose, and how many.

I think of men singing, making prayer sticks, acting out their intention in partnership with unseen forces by the light of small fires in the kivas that now lie beneath the lab structures, in the kivas of the Rio Grande villages, of Zuni, of the Hopi mesas. Is there a possible corollary in our modern world? Is there a way for the interaction with the unseen forces of the universe that takes place daily at the labs to be something other than the black magic it seems to be?

Beyond the practical imperatives of the research that underpins nuclear weapons, imperatives which are directed toward the narrowest of national ends rather than ends which would serve us all, I believe the mystical view is very much in line with the cosmology asserted by modern physics. Many of LANL's researchers, Jungman included, would much rather be focusing their attentions on astrophysics and cosmology, the study of the largest and the smallest processes at play in the universe. No human artifact, no bomb, centers this pursuit. The cosmologist's goal is to know something of the beauty and wonder we, as conscious beings, find ourselves surrounded by in endless and fathomless measure. Albert Einstein, for example, made no secret of his inclination toward a unifying, spiritual view of the universe and our place in it. The holy grail of physics, the Theory of Everything, is nothing short of a desire to know the mind of God.

A mystical view breaks through the dogmas and structures that separate traditions from one another, people from one another. It has no goal but communion with that which is both within us and beyond us, knowable and unknowable. It cuts through national allegiances, has no allegiance at all but to the honoring of the unknown. If that sounds crazy, take it from Einstein himself, whose theories provided the theoretical background of the atomic bomb, and whose warning to Roosevelt that the Nazis were trying to develop it led to the Manhattan Project.

A human being is part of the whole called by us universe, a part limited in time and space. We experience ourselves, our thoughts and feelings as something separate from the rest. A kind of optical delusion of consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest to us. Our task must be to free ourselves from the prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty. . . We shall require a substantially new manner of thinking if humanity is to survive.

This manner of thinking is exemplified in the daily goings on in the actual kivas of the world, where circles are widened, the unembraceable embraced. The daily pursuits of Los Alamos exemplify this embracing's antipode. The mythological pilgrims from the former world in the Pueblo creation stories strove to bar the door against two-hearted mischief. Yet, the basic human illusion of separateness—an illusion played out at every level, from the individual to the national—betrays the two-heartedness that is a part of our very fabric. Einstein's 'delusion of consciousness,' at once a boon and a curse, underlies the destructive spiral, typified by the perennial churnings of the great minds and machines of Los Alamos, that the planet now seems unalterably gripped by.

If we knew how to listen to snakes, the way the Hopis in their ceremonies do, what would they tell us? In the middle of a balmy summer night after a huge summer rainstorm, a monsoonal downpour that filled the arroyos with roiling mud and detritus, I swam across the Rio Grande from my campsite on the east bank. On the alluvial shore where Sandia Canyon, surely peppered with plutonium in its upper reaches, spills out to the big river, I sat in a thicket of Russian olives and salt cedar, enveloped in weighty, humid air and mosquito hum. I often visit this spot at the foot of the Pajarito, on the edge of Pueblo land, where the river burrows into black rock on its way toward Cochiti Reservoir and the lowlands beyond. This night, as I sat lulled by the song of crickets and susurrant water, something in my surroundings, at first beneath my notice, prodded at my

nerves. A rustling in the underbrush at my back. I turned and, squinting in the dim moonlight, saw something moving.

Rattlesnakes. Two of them, bigger than I ever imagined they could be, coiled and curled, steadily and continuously, around one another. Their movement entered the base of my spine and lifted me instantly to my feet, which left the ground as I sprang back in automatic, preconscious dread.

The rains had stirred the snakes. I backed away from them as they entwined on in a primordial rite of pure instinct, a living Caduceus, and slid back into the water to make for the other side.

The answers must come back to our bodies, our earth, our inevitable and fragile connections with all living things, all things seen and unseen, known and unknown, shunned and embraced, dreamed and imagined. All is sacred, as the saying goes. Or, nothing is sacred.

The wind stirs as dark as the sun falls behind the Jemez yet again, bleeding copper and lilac hues into the bellies of thunderclouds, their great billowing chests lightening-lit from within like paper lanterns in the oldest of temples. Walking rain licks down, reaching out solace to a sun-scorched land. Rattlesnakes writhe and slide beneath rocks as the first drops slice earthward, raising puffs of dust. As night encloses the valley, the lights of the laboratory snap to life. The world wants to be right. In the moving air, the

warhead chimes speak solemn, elongated tones, voicing sounds whose truth resides at the center of all things.

We are all united in the burning heart of the stars.

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