LOG FROM A STAY AT THE H. J. ANDREWS EXPERIMENTAL FOREST
October 20-26, 2008

Scott Russell Sanders

Monday, 20 October:

After midnight, winding through fog along a road flanked by the looming presence of trees, I find my way to the headquarters of the H. J. Andrews Experimental Forest. I park in front of a building called Rainbow, where I am to claim the middle of three apartments. The visitors here are usually scientists. But I am a writer, offering another way of knowing. As I unload the rental car, a raven grumbles at me from a nearby roost, like any sleeper irked at being wakened. So I arrive from Indiana for a week-long stay in this Oregon watershed, to add my mite of observations and reflections to a record that's designed to extend over centuries.

*

Between 8:00 a.m. and 1:00 p.m., Fred Swanson takes me on a brisk tour of the Andrews, partly by car, partly on foot, all in the rain. Although he claims to be a couple of years deeper into the seventh decade of life than I am, Fred neither looks nor acts his age: tall, lean, agile, with a full beard and a full head of hair, quick of mind and body, and with youthful enthusiasm about this forest and its creatures. He is officially billed as a research geologist with the Forest Service's Pacific Northwest Research Station, but his knowledge spans the sciences. No matter how many questions I ask—and I ask hundreds—he never runs short of answers, about everything from the volcanic bedrock to the nitrogen-fixing lichens. How grand it would be to know any place as well as Fred Swanson knows this one.

He tells me that writers' responses will be added to the "data stream" about the Andrews Forest, along with measurements from instruments and reports from scientists. This may be our most distinctive trait as a species, that we generate a continuous "data stream," not just here but everywhere, and not just writers or scientists but everyone, as we take in some portion of the world, reflect on what we have perceived, and give back our responses in words or numbers or paint or song or some other medium. We may be hairless, clawless, and slow of foot, but we are masters at wielding symbols.

*

During the afternoon, chilled, jetlagged, I sit before the picture window in my comfortable digs, making notes from all that I can remember of the morning's outing, looking up occasionally to watch a doe and two fawns graze on the headquarters lawn. Water drips from the metal roofs. The Douglas-firs and redcedars and hemlocks on the facing slope vanish and reappear and vanish again as mist drifts through the valley. The annual precipitation here at the lower elevations (1,400 feet) is about 90 inches, twice what we receive back in my home region of southern Indiana, while the upper elevations (5,000+ along the rim of this watershed) receive about 120 inches. Whenever I return to truly wet country, I rejoice.

Tuesday, 21 October:

My body has not been persuaded of the three-hour time change between Indiana and Oregon, so I wake long before daylight and sit up reading a recent book about Aldo Leopold. I am drawn to Leopold as much by his character as by his ecological vision. He wrestled with the central conundrums that anyone concerned about the health of the planet must address: How can people be persuaded to care about the great matrix we call "nature" if they dwell almost entirely within human structures? How can we convert people from thinking and acting like "consumers," as our culture dictates, into thinking and acting as conservationists? How can we convert a culture devoted to short-term self-interest into one devoted to the long-term common good? Leopold gained his own long-term perspective from studying the dire effects of human actions on the land, especially in the arid, highly erodible lands of the Southwest and in the sand counties of Wisconsin. Such a view is a side benefit of studying geology, evolutionary biology, or cosmology. Loren Eiseley deserves perhaps even more credit than Leopold for bringing this deep-time perspective into our literature.

*

At first light, I walk a path from the headquarters compound to a gravel bar in Lookout Creek. Along the way, I stroke a few of the five-century-old Douglas-firs that thrive in this moist bottomland. One of the largest is surrounded by scaffolding for rope-climbing, and something about this tree—its generosity, its patience—stops me, and I place my palms and forehead against the furrowed, moss-covered bark, and lean there for a spell. I feel calmed and comforted and grateful. I don't imagine this contact means anything to the tree. I realize it's nonsensical to speak of a tree as patient or generous merely because it stands there while scientists and school children clamber up ropes into its highest branches. But how can I know a tree's inwardness? Certainly there is *intelligence* here, and in the forest as a whole, if by that word we mean an organism or system acting in a way that responds appropriately to its circumstances. How does that intelligence compare with ours? What can we learn from it? And why, out of the many giants thriving here, does this one draw me to an embrace?

Condensation drips from every needle and leaf. The fog is still thick, so the treetops merge with the gray sky. Lime-green lichens, some as long as a woman's ponytail, dangle from branches. Set off against the somber greens and browns of the conifers, the yellow and red leaves of vine maples, big leaf maples, and dogwoods appear luminous in spite of the damp. Shelf funguses jut from the sides of an old stump, like balconies for squirrels, and on the stump's broad top five tiny hemlock sprouts glisten. Can all this reaching for sunlight, nutrients, and water mean nothing? And if it means something, what does it mean, and to whom or what?

The chuckle and rattle and croak of ravens overhead remind me that we humans are not the only minds in the forest. But we are the only minds that seem capable of responding to our surroundings in symbolic ways. Is this our calling as a species? Do we provide for the earth and its creatures an unusual degree of self-awareness, self-reflection, and interpretation? Or do we at least provide amusement for other species, when we are studying a habitat rather than destroying it? What do the ravens make of children

climbing trees? What do the bears make of grown men musing beside a stream?

*

As I reach Lookout Creek, I am enveloped by the sound of riffles sliding over water-rounded rocks. Red alders, no thicker than baseball bats, lay temporary claim to the ever-shifting gravel bar. The next flood will scour them away. The sinewy roots of an upturned stump seem to mimic the muscular current in the stream. The bar is littered with gray, ruddy, and brown stones, ranging in size from fine grit to cobbles to boulders the size of stoves. In flood they would make quite a clatter. The many stones that are pockmarked with small holes betray the volcanic origins of this rubble, all of it eroded from the Cascade Mountains to the east. This whole landscape is sliding toward the sea, even as the pressure of new eruptions builds underneath the Cascades plateau.

Where better than such a place to recognize that the essence of nature is *flow*—of water, wind, breath, lava, electrons. The Psalmist says: "The mountains skipped like rams, and the little hills like lambs." Dōgen assures us that mountains are always walking. They literally *do* move, arising and eroding away over geological time, just as organisms grow and decay, species evolve, tectonic plates shift, stars congeal and burn and expire, entire galaxies shine for a spell and then vanish. Nothing in nature stands still; nothing is fixed. Thoughts flow, as well, even in the depths of meditation. And yet the human mind seems compelled to imagine fixity—heaven, nirvana, Plato's ideal realm, eternal God—and the human heart yearns for permanence. Why else do we treasure diamonds and gold? Why else do Creationists cling to the notion that all species were created in exactly their present form, derived from an unchanging original in the mind of God? Is our search for scientific "laws" underlying the constant flux of nature another expression of our longing for stability? And does our attraction to the *fixed* arise purely from our fear of aging and death?

Conservationists have often been accused of wishing to freeze the land and its species in some favored condition— for example, the American continent as it was before European colonization. Ecology teaches us that no such stasis is possible, even if it were desirable. Scientists once spoke of a "climax" forest, as if some goal had been reached and the flow had ceased, but they no longer do so. If flux is the nature of nature, however, we still must make distinctions among the *kinds* of change. We cannot resist the damage caused by human behavior unless we distinguish between *natural* change—for example, the long history of extinctions—and *anthropogenic* change—for example, the recent acceleration in extinctions due to habitat destruction, pollution, climate heating, and other disturbances caused by humans. The capacity to make such a distinction, and to act on it, may be as distinctive of our species as the capacity to use symbolic language.

I sit for an hour, transfixed, at the narrowest, noisiest passage in the riffles on Lookout Creek. The sound goes deep in me. Why is it so lulling? Does it evoke the waters of the womb?

A dozen dead snags tilt over the creek, their bare limbs like the sparse whiskers on an old man's chin. I figure they've been killed by high waters. (Later I learn they were actually killed by bark beetles, which invaded trees blown down by wind a few years earlier.) Upstream, a gigantic Douglas-fir has fallen across the creek, its trunk still as straight as when it was alive. A few meters downstream, another giant has fallen, this one snapped in the middle. I can't help imagining one of the standing snags suddenly

toppling onto me and snapping my thread of thought, scattering this temporary congregation of elements and cells and notions bearing my name. If such a fall occurred, what would be lost? I'm not wondering about my *individual* death, but about any death. Each of us will die, of course, but does it matter, beyond the circle of our family and friends, whether death comes today or twenty or seventy years hence?

*

Although I plan to spend as much of the week as I can on foot, I climb back into the rental car in order to visit the "decomposition site" up toward Blue River Ridge. Recumbent logs, moss-covered, exhale the carbon dioxide they stored while growing. Their breath makes no noise. My ears hum with the rush of my own breath and blood. Otherwise, utter silence. What a blessing to be free, even for a minute, from the racket of machines! Many of these logs bear aluminum tags on their butt ends and scientific instruments that measure the rate and manner of their decay. The downed logs—and the project—will outlast generations of scientists. And there is another of our peculiarities—that we are capable of acting in light of, on behalf of, a future we will not live to see.

The name attached to this site as part of the Long Term Ecological Reflections project catches my fancy as a writer. I keep thinking about "composition" in the artistic sense—the making of something shapely and whole out of elements. A musician composes with notes, a painter with colors, a writer with letters and words, just as life orchestrates carbon, oxygen, nitrogen, and other elements into organisms. Life composes materials into coherent structures that persist for a while, change over time, and eventually dissolve back into their elements, which are eventually gathered up again into living things. So art and life both counter entropy by increasing order; and both require energy to accomplish this—sunlight, pancakes. The symbolic structures that humans create—songs, stories, paintings, films, photographs, diagrams, mathematical formulas, computer codes—are only meaningful insofar as they are read, heard, or otherwise perceived by humans. Do living organisms take on meaning as they are gathered into consciousness? Do raven, Douglas-fir, spider, or lichen mean anything different, or anything more, as a result of human perception?

*

11:00 a.m. Clouds scatter and sun breaks through. The warmth takes the bite out of a sharp wind. By 2:00 p.m., clear blue sky. Half moon low in the west.

Much as I love the deep woods, I am drawn to openings, anywhere I can see sky and distance. Why does a vista appeal? Because it makes us feel safer, more powerful, in command of all that we survey? Are we still hunters at heart, on the lookout for predators or prey?

By comparison with the broad crowns of my Midwestern hardwoods, the Douglas-firs and western hemlocks and western redcedars have remarkably narrow tops, even in trees that grow in the open. How can so few needles capture sufficient energy for such massive trees? The smooth bark on the young Douglas-firs is surprisingly light in color, chalky rather than brown—almost like aspen or gray birch. Bark on mature trees is deeply furrowed (some crevices deeper than I can reach with my fingers), dark brown with occasional reddish plates. The great ones are often surrounded at the base by a skirt of fallen debris, called "bark slough mounds." Imagine if a human were to stand in one place all life long, what a pile of sloughed-off hair and flakes of skin would form around the feet!

*

When the Andrews Forest was established in 1948, what we now call "old-growth" was referred to on maps as "large saw-timber." The original purpose of the forest was to experiment with methods of harvesting big trees. The assumption was that they should be cut down—the only question was how. Fortunately, since 1948, more people, both inside and outside the Forest Service, have come to see that mature forests have other and higher values than being turned into saw-timber.

Wednesday 22 October:

My body seems to have accepted that it is in the Pacific time zone, and I sleep until almost 6:00 a.m. The valley does not begin to brighten until 7:00, even though the morning is cloudless. Over the lawn, where water vapor rises into early sunlight, dragonflies stir. Ravens begin their errands.

When full daylight comes, I return to my totem Douglas-fir in the bottomland near Lookout Creek. I press my palms and forehead against the trunk, which smells faintly of moist earth, and perhaps of cinnamon (my imagination stirred by the color of the under bark). As I lean away, I touch my forehead and feel the rough imprint of the bark. I stare up the giant column and spy clear blue sky fretted by branches. Perspective makes the tops of the surrounding, smaller trees appear to lean toward this giant one, as if conferring. The bark on the great Douglas-fir is like a rugged, miniature landscape, ridge and valley, with flat plates separated by deep fissures. Here and there among the fissures, spider webs span the gaps. Any exposed bark is soon covered with lichens and moss, every square inch like an exquisite garden. The wispy lichens, pale green, dangle down like shaggy fur. The soil around the base of the trunk is spongy from duff. Even in the absence of wind, there is a steady fall of dried needles, the color of old pennies, and they make a ticking sound against my jacket.

For all its grandeur, beauty, and longevity, the Douglas-fir cannot bear me in mind, cannot reflect or remember or imagine any other creature—can only *be*. Insofar as meditation returns us to that state of pure, unreflective being, it is a respite from our human burden—and human power—of ceaseless thought. When we surface from meditation, we are not turning from reality to illusion, as some spiritual traditions would have us believe; we are reclaiming the powers of mind, renewed by our immersion in the realm of mountains and rivers and breath.

I keep wondering if this human power matters. Certainly it does to other two-legged cogitators. And our ceaseless thinking has consequences for other organisms insofar as it influences our behavior—as the research done at Andrews has affected our treatment of old-growth forests, or as changed attitudes have led to the reintroduction of wolves in Yellowstone. But does our thinking matter in any cosmic, ultimate sense? Would the universe lose anything vital if we suddenly vanished?

If consciousness is only an accidental side effect of a purely mechanistic, deterministic, evolutionary process, then it cannot matter to anything beyond our human community. But if consciousness has been latent in the universe since the Big Bang, then perhaps it is essential to some grand purpose. We can't know which of these notions is closer to the truth, despite the arguments of prophets and philosophers. But we can form

hunches, and, right or wrong, these will influence the spirit of our work and the tenor of our lives. For what it's worth, my hunch is that consciousness is not an accidental side-effect of material evolution, but is fundamental to reality. It is not separate from what we call matter, but is a revelation of the inwardness of things. One need not regard consciousness as the goal of evolution in order to honor the mind as a manifestation of the creative, shaping energy that drives the cosmos.

*

2:00 p.m. Back at the gravel bar on Lookout Creek. Sky clear, temperature in the 50s. Comfortable in the sunlight, chilly in the shade. I sit cross-legged on a boulder, close my eyes, and listen. The sound of the current comes to me in stereo, a ruckus from upstream, a subdued burbling from downstream. Now and again I hear the thump of a rock shifting in the flow. Even with my eyelids closed, I envision the bright leaves of the maples and dogwoods glowing along the thread of the stream like beads on a necklace. With so much to see, I open my eyes and look. Light gleams on the water-shapes formed by current moving over rocks. These shapes will persist until the water level changes or the rocks shift, just as the temporary shapes of our bodies persist for a time, fed by flows of breath and water and food. I work my way upstream over a long ridge of cobbles and boulders, the stones slippery under my boots. Tumbled and rounded by the fast-moving waters, these rocks have moved countless times since they broke loose from the mountains above. I sit leaning against a young alder that has sprouted among the stones, its every leaf nibbled. Everything here begins as food or becomes food. The sound of the waterfall fills my head, squeezing out all other sensations. Under the spell, I let go of past and future, of judgment, of all thought.

*

Late afternoon, as I walk along the entrance road, the air still, now and again a leaf breaks free from a maple and sashays down, golden, glorious.

Thursday 23 October:

The traveler is dull and lonely this morning. After weeks on the road, giving lectures or readings or workshops in a dozen states, I feel dazed. Here in the Andrews, I take in impressions, make notes, ponder unanswerable questions, but my mind is clouded. The sky, by contrast, is transparently blue.

In search of clarity, I walk the bottomland path to commune with my totem Douglas-fir. There is something in this attraction I must figure out. The great tree sets a puzzle for me. Mind in the forest. Whose?

I continue on to the gravel bar on Lookout Creek. The stream hustles nearly due south right here, so as noon approaches, the sun glares into this crease in the forest. I sit on a sunlit rock, my jeans and navy blue jacket soaking up the warmth. Still, I can see my breath, and my sitting bones are soon aching with cold. Against the halcyon sky, the spires of trees stand out with startling clarity. The cobbles around me are shiny with dew. The muscular current, twisting over rocks, catches and tosses the light. The banks on either side blaze with the salmon pink of dogwoods, those western relatives of the beloved understory tree of my Indiana forests. Everything I see is exquisite—the stones of all sizes laid against one another just so, the perforated leaves of the alders, the fallen

needles gathered in pockets along the shore, the bending grasses, the soaring trees against blue sky, and light playing over it all.

As I walk back through the bottomland, sunlight slanting through the canopy makes the minty lichens dangling from branches appear incandescent. I am overwhelmed by the awareness that all of this growth is driven by the light from our neighboring star. But what power shapes the growth and binds it all together into a forest? This is the question William Blake asks in "Tyger, Tyger, Burning Bright": "What immortal hand or eye / Could frame thy fearful symmetry?" And is my asking the question only a holdover from a time, long past, when I believed in an "immortal hand" guiding all things?

The steam of my breath swirls in shafts of sunlight. I am connected to it all, taking in oxygen from these great givers, and offering them my exhalation.

Everywhere on the forest floor, logs rotting, becoming food for new life.

*

After lunch, I walk down the entrance road toward the Blue River. Along the way I think about our compulsion to find human stories in nature. We identify bears and hunters and wandering sisters in the stars. We see dragons in the shapes of clouds, where there is only water vapor. We hear mournfulness in the calls of owls, where there is only territoriality or courtship (other human parallels). Intellectual rigor cautions us not to make such analogies, not to attribute meanings or emotions to nature. But if we abandon such connections, if we give up on stories, we estrange ourselves from the universe. We become mere onlookers, the sole meaning-seeking witnesses of a meaningless show.

I cross the Blue River on a bridge that leads into the Mona campground of Willamette National Forest. In summer, with the floodgates closed in a dam south of here, the waters would be backed up into a reservoir, but now the river curls unobstructed through bedrock as knobby and gray as elephant hide. The streamside terraces are pasture-green, as if grazed. The spacious view of sky and river and mountains cheers me, and helps me understand the sense of oppression our ancestors felt in the deep, dark, dank woods.

Closed for the season, the Mona campground is deserted. From a tent near the roots of old trees, you would hear the river purring or roaring just below. On the bulletin board, alongside warnings about invasive plants, there is a notice about a local woman who has been missing since August.

I remember this notice a few minutes later when, on a nearby bridge that crosses Lookout Creek, I find resting on the railing a woman's high-heeled sandal, size 7. The 3" heel and the toe-strap are made of clear plastic impregnated with glitter. The insole is inscribed with the words, NO BOUNDARIES. The bottom of the shoe identifies the brand as CINDERELLA. Made in China. Immediately I begin concocting a story that would bring it from Asia to this forest road in Oregon. A roaring distracts me, and I look up from this incongruous object to see a red pickup cruise by carrying a mud-spattered 4-wheel all terrain vehicle—another expression of the no-boundaries attitude. Off-road vagabonds, snowmobilers, wilderness drillers, factory boat trawlers, 24/7 merchants, cornucopian economists—all refuse to accept the notion of limits. But without limits you cannot have ethics, which require us to accept boundaries, to refrain from certain actions, to distinguish between what is possible and what is right.

I walk down to the mouth of Lookout Creek where it empties into the Blue River.

The current makes a rumpus as it rushes through the broad outwash of gravels and cobbles and boulders into the river. The largest of the boulders are the size of compact cars, and yet even they have been battered and rounded. How many floods must they have tumbled through to wear down so smooth? What had appeared from a distance to be grass growing on terraces beside the river I now see to be a kind of sedge. There is enough of a breeze to keep the green blades in constant agitation, as if the ground were seething. There are more birdcalls down here, and more birds in flight, than I have seen or heard in all my time in the woods—another reason for the allure of openings.

I walk downstream past a boat ramp, which is unusable now with the reservoir drained. A series of horizontal bands along the banks mark where high waters reached during the summer. In spite of the beauty of this place, a strange lassitude comes over me. Perhaps I have simply burned up what I ate for breakfast and lunch. So I climb back up the slope to fix supper, and to elaborate the field notes I've been making in my journal. Two ravens swoop from treetop to treetop alongside me, calling raucously, as if commenting on my clumsy gait. Back in my Rainbow apartment, I cook up brown rice and stir fry, make a salad, and eat my bachelor supper as light fades beyond the windows.

Lonely again. I am no good at being a hermit.

Friday 24 October:

I learn names. The pale green, stranded lichen that dangles from branches and tree trunks is commonly called old man's beard, and belongs to the genus *Usnea*. It contains strong antibiotics, a fact intuited by Native Americans who used it to staunch wounds. The flat lichen that grows on top of limbs is *Lobaria oregona*, commonly called frog skin lichen or lung lichen; it's nitrogen-fixing, and so when it falls to the forest floor it enriches the soil. Noble fir (*Abies procera*) prefers higher altitudes. Douglas-fir (*Pseudotsuga menziesii*) is not a true fir; western redcedar (*Thuja plicata*) is not a true cedar. At least western hemlock (*Tsuga heterophylla*) is faithful to its name. Back home, I will continue writing about Oregon before a window that looks out on an eastern hemlock (*Tsuga Canadensis*), which has been for 35 years now a shaggy companion to my shaggy thoughts.

*

At midday, sunlight floods the gravel bar on Lookout Creek, illuminating strands of spider filament that curve from one boulder to another, over an expanse of rushing water. How did spiders manage this engineering feat? The wind might have blown them one direction, but not back again, and yet at least a dozen gossamer threads zigzag between the massive stones.

Moths and smaller insects flutter above the stream, pursued by dragonflies. The creek is lined by drift logs in various states of decay, from bone-gray hulks to rotting red lumps. Wet boulders gleam as if lit from within. A throng of rounded stones appear in this light like the heads of a crowd moving downstream. I learn later that this impression is not just the effect of sunlight and shadows. As rocks are shoved along by floods, their forward edges ride up over the trailing edges of rocks below, creating an effect called shingling, an arrangement that will persist until the next high water shifts the bar.

We are moved not only by living forms—trees, birds, mosses, insects—but by all

natural forms—dust motes whirling in sunlight, angled rocks, waves in water, volcanic peaks, cratered moon, stars in the night sky.

*

Back downhill to the Blue River, where I pick my way along the stony bank with the aid of a stout driftwood branch. A mile or so upstream; a mile or so downstream. No hint of loneliness here. Yet what is it that keeps me company? The hustle of water that would as soon drown me as quench my thirst? The indifferent trees that lean into the sunlight? Is there more here than matter-in-motion? If so, what?

*

In the evening, I must become a social animal again, as I am joined for supper at the Andrews by forest wizard Fred Swanson, along with Charles Goodrich, poet and gardener and Program Director of the Spring Creek Project at Oregon State University; Robin Kimmerer, a botanist and moss aficionado who teaches at SUNY-Syracuse; and Alison Deming, an earthy poet and essayist who teaches at the University of Arizona. Fred and Charles visit the forest often; but Robin and Alison have traveled here only once before, to spend a week in residence as I am doing, and now they return with eagerness to a beloved place after long absence.

Over supper we talk about the forest, about the upcoming national elections, about the condition of the planet, about ways of transforming our nation's culture of exploitation into a culture of care. Because the stakes are so high—not merely the quality of life for humans, but the prospect of survival for millions of species including our own—our endeavors here in this patch of old-growth forest may seem almost laughably small. And we do laugh a good deal, aware of the long odds. But we do not give in to despair. Our values, affections, and knowledge require us to act for change within our own spheres, to write scientific papers and essays and poems, to speak up wherever we can get a hearing, to gather and sow seeds of wildness, to bear witness, however modest, to a different way of being in the world.

Saturday 25 October:

Breakfast with my colleagues from last night. We are joined this morning by Kathleen Dean Moore—visionary philosopher and essayist and founding director of the Spring Creek Project at Oregon State. She arrives after keeping company with her daughter, who gave birth earlier this week to the daughter's first child and Kathy's first grandchild. A reminder from the human zone that the wheel of life keeps turning. My own three grandchildren, all girls, ranging in age from seven months to five years, have been vividly present to me during my stay in the Andrews. I dedicate the months or years of work I have left in me to their wellbeing, and to the wellbeing of all children and all species, far into the future.

My colleagues and I take up again over breakfast the concerns that have brought us here, the concerns that inspired the two-hundred-year plan of inviting not only scientists but also writers and humanists to reflect on the forest. A guiding question: How can we convey the multitude of ways in which people engage with a particular piece of land? The Andrews Forest is our test case, but the question is relevant to *any* piece of land. How can we engage writers and humanists in an ongoing, long-term conversation

with research sites in other regions? And what do we hope to learn from this sustained attention? What is the role of imagination in our relation to land? In science, imagination leads to testable hypotheses. In art, imagination is guided more by a sense of beauty, coherence, wholeness, and form, and it is "testable" only in terms of the response it evokes in us; it cannot be neatly validated or invalidated, as in science. We already know a great deal about human and natural ecology, so why doesn't this knowledge lead us to create a more just and sustainable world? What prevents us from acting on what we know about the way the world works—to reduce the emission of greenhouse gases, for example, or to alleviate poverty? What values aside from monetary ones, and what emotions aside from greed, foster a more caring relationship to land? In our dialogue we come up with a short list: prudence, thrift, curiosity, kinship with other species, regard for future generations, beauty, reverence, love. The emotion I have thought most about in recent years is awe, which combines wonder and fear, and which seems to me our most accurate response to the vast, ancient, mysterious, ever-flowing universe.

*

In the afternoon, we make a long drive toward the top of the watershed, parking at a trailhead on the slope of Carpenter Mountain. From here we gain a spectacular view of the Cascade Mountains to the east—the Three Sisters (North, Middle, and South) rising most prominently, each with an icing of snow. These peaks, and others along the spine of the Cascades, are quite sharp, a mark of their youth. The highest of the Sisters are just over 10,000 feet, whereas Carpenter and the other mountains of the underlying plateau are around 5,000. These lower mountains date from an earlier epoch of volcanic activity, while the higher peaks date from recent times. Pointy Mt. Washington (7,794'), rising due east of us, shows a slag-gray lava flow that occurred some 1,500 years ago.

*

The mile-long trail up to the fire lookout atop Carpenter Mountain is gradual, but I still find it a struggle, my heart thumping and breath coming short. I might blame the altitude or my age, but instead I blame the medicine I've been taking to control high blood pressure. After a morning of talk, we agreed to maintain silence on our walk up the mountain, and mostly we gesture like mimes. But every now and again, in whispers, I ask one of my companions for the name of a plant (bear grass, pearly everlasting) or for the explanation of some remarkable feature ("snow creep" that curls the lower trunks of trees on steep slopes; spiky tail ends of branches that jut into the hollow of a downed trunk, and that will outlast the log and eventually show up in streams as "river teeth"). We pass through a burned area, where the trunks of standing trees are scorched black and the fallen trees crisscross one another like pickup sticks. We pass through a glade where the soil is too thin for trees and the vegetation rises no higher than our heads. But most of the way we pass through verdant, shadowy stands of Douglas-fir, redcedar, and hemlock until we near the peak, where sunlight breaks through.

The last couple of hundred feet, the trail leads up steeply over bare rock. We pass an outhouse that serves the fire watchers when they are here in the summer, a newly-built cedar affair that is attached by cables to upslope trees, to keep it from sliding downhill. At last we reach the brilliant white box of the lookout shack, which rests on a volcanic pinnacle just broad enough to provide a narrow ledge between shack and abyss. Despite the metal railing, I creep around the ledge as I take in the magnificent view. Far to the north we see Three-Fingered Jack and the sharp, snow-streaked crest of Mt. Jefferson.

Closer by, we see the barren snout of Wolf Rock, which Fred identifies as the resistant core of a volcanic intrusion. In all directions we see ranks of mountains stretching away into hazy distance, ridge beyond ridge. Every break in the forest cover is daubed scarlet by huckleberry leaves turning color, and low-growing huckleberries spread the same scarlet glow around the stony peak on which we stand. Awe is what I feel—amazement and dread in equal measure—a sense of the world's grandeur and my own transience.

Sunday 26 October:

My 63rd birthday. I rise at 4:00 a.m., drive through fog down forest roads to the McKenzie River Highway, then along the river to the interstate, leaving the big trees and mountain streams behind, but not letting them go. I hold onto these glories, these mysteries, and carry them with me across three time zones to the hardwood hills of southern Indiana, where I mark my homecoming with stories for my wife, a visit to my daughter and son-in-law and granddaughters, and a vow to repay the earth's gifts in whatever way I can.