

The Tangled Bank

Robert Michael Pyle

THE LONG HAUL

The dynamics of decay hold the key to a future where humans and trees both thrive

IN THE DIM DEEPWOOD of massive and moss-bound trees, the three tenors of the Northwest forest give voice: varied thrush's raspy note, like whistling through spit; golden-crowned kinglets' high tinkle, the sound older ears lose first; and winter wrens, pucks with pennywhistles on an endless tape loop. A fourth, pileated woodpecker, is silent for now, having already totemed all the big old snags.

I've arrived at a place known as the Log Decomposition Plot. The mossy turnoff is paved in evergreen violets, then comes a trench and berm to keep vehicles out, but

the bulldozed tank-trap has grown to resemble a native outcrop, covered in sword fern, salal, and moss. Fresh wind-throw renders the trail almost impassable at times: a suitable gateway to a place where, when a tree falls in the forest, a lot of people hear it—and then take a close look at what happens next.

When I get to the laid-out logs and the sawed-off tree-rounds that fallers call cookies, I know I've arrived at the place where druids of forest research make offerings to Rot. This is the H. J. Andrews Experimental Forest, 16,000 acres situated deep in the

Oregon Cascades and managed by Oregon State University and the U.S. Forest Service. The Andrews, dedicated to forest research since 1948, became a charter member of the National Science Foundation's Long-Term Ecological Research Program in 1980, one of twenty-two sites in the United States and two in Antarctica. The fundamental study of the northern spotted owl took place here, along with much basic research on forest function. Recently, recognizing that science is not the only tool for probing what forests mean, the Forest Service and the Spring Creek Project of OSU's Philosophy Department initiated a program called Long-Term Ecological Reflection. This inspired whim is the source of my good luck in spending a week here, reflecting and writing.

Whole watersheds of old-growth western hemlocks and Douglas firs grace the Andrews, which are simply shocking compared to the second- and third-growth evergreens of my home hills. The Decomposition Plot, devoted to studies of nutrient cycling and forest refreshment, lies in one such ancient stand. It's easy to tell when I'm inside the research zone by the yellow, red, and blue tags on wire stems sprouting from the moss. One pink cluster pokes like old trilliums from a mossy mound that once was a tree. A red bunch limns the ground where a one-time log has finally given up the ghost. Metal tags label the cut butt-ends of many logs that lie about hig-



gledy piggedly, as gravity and the wind might have arranged them had researchers not dropped them first. Bright flags beribbon trees, shrubs, small boles, and limbs, and duct tape shores up the ends of some logs: is someone investigating the degradation rate of duct tape as well as wood fiber? White plastic pipes, buckets, jugs, and other bits lie here and there, each significant to some experiment or other. In early spring, no one is here for me to ask.

Some would see all these artifacts as litter, marring their wilderness experience. You can also see them as inflorescences, like that mysterious white plastic funnel sprouting next to a nodding trillium. Take away the pink ribbon around that hemlock over there, pick up all the aluminum and plastic, and this old-growth forest would still work just like any other. Researchers cut fresh cookies for a starting point, then measure their decay forever after—or as long as they can. But let all the straight cuts rot away and you've got an untidy place going about the important business of trading in the old for the new, an ecosystem definitely in it for the long haul.

For the most part, most of us take the short-term view, most of the time. What gratifies right now, or soon at the latest, is always more compelling than what might satisfy years from now, let alone nourish the generations. When business opts for short-term profits instead of long-term husbandry, both forest and human communities suffer. The short view is what turned most of the Northwest's giant forests into doghair conifer plantations cut on short rotation for pulp. To peer much further down the line requires not only empathy for those who follow, but also faith in the future—even if you won't be there to see it for yourself. Such an ethic underlies all of the long-term studies here on the Andrews, whether concerned with old-growth ecology, hydrology, riparian restoration, forest development and mortality, carbon dynamics, invertebrate diver-

sity, or climate change and its effects.

Meanwhile, here in the Decomp Plot, nuthatches toot in monolithic columns of Douglas fir; a robin chitters in a clearing. Dappled light falls on forests of the moss called *Hylocomium splendens*, hammocks of shiny twinflower leaves, and fleshy *Lobaria* lichens lying about like tossed-up ocean foam. The path is a maze of Irish byways for voles. Douglas squirrels leave their middens of Douglas fir cone bracts

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all about like a prodigal's spent treasures, and round leaves of evergreen violets and wild ginger spatter the path like green coins. If they were gold, I doubt they'd distract the unseen leprechauns who come here to gather the data of decline. Gold doesn't decompose, and this place is all about the documentation of rot. It goes on all around me: something fairly large just fell from a nearby old-growth giant.

Maybe that's the problem with the long view: it speaks of our own inevitable demise. We're not much into self-recycling. Even in death, we take heroic steps to forestall rot by boxing our leavings in expensive, hermetic containers. After all, to anticipate the future—a future without us—is asking quite a lot. But life and regeneration are the name of the game on this mortal plane, every bit as much as corruption. The winter wren's song, after all, is no morbid message. Old vine maples hoop and droop under their epiphytic shawls, but the unfurling leaves of the young ones are the brightest items in the forest (even brighter than the red plastic tags). Every downed and decaying cylinder of cellulose makes yards of nitrogen-rich surface area for hopeful baby hemlocks, lichens, liverworts, and entire empires of moss to take hold on and begin making forest anew.

If we care about what's to come, it makes sense to send delegates to the forests of the present to find out how things truly are, report back, and check in again year after year. The conundrum of the diminishing baseline says that if we have no clear idea of what went before, we are more likely to accept things as we find them, no matter how degraded they may be. Memory is short, the collective memory even shorter. But with baseline in

hand, we can appreciate change for what it is. Recognizing loss, we may even act to prevent future loss.

Just as the scientists gather data, any open-eyed observer could go on documenting details without end in such a place: the declination of that row of saplings bent over one deadfall by another; the way that one sword fern catches the sun to suggest a helmet; how the polypore conks launch out from cut ends as soon as they can after their vertical hosts go horizontal, their mycelia reorienting ninety degrees to the zenith. There is no end to particulars as long as the forest goes on and there is someone to record them. The moss grows, the raven barks, the trees go to soil—first hemlocks, then firs, finally cedar. All the while, the decomp team is there, watching how the cookies crumble. Maybe looking to the future is a way of hoping there will still be something to see when we get there. Maybe it's the only way to make sure of it. 🐾

Robert Michael Pyle ranges far afield in search of the tangled bank, that green and teeming place where Charles Darwin imagined life's stories revealing themselves. He recounts his detours and delights in each issue of Orion.