Savouring What Remains of the World's Wildness: John Muir, Tree-Climbing, and Experiential, Outdoor Education

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Summary

Those who love the natural world have plenty to despair about in today's world, as wildlands are carved into housing tracts and plumbed for oil and species after species are driven to extinction - a world in which we may well be warming ourselves to extinction. In the face of this daunting reality, I often find myself, as a teacher and scholar of environmental literature, turning to American author John Muir (1838-1914) for solace and inspiration. I also use Muir prominently in my teaching, especially when working with students in the Semester in the Wild Program of the University of Idaho an experiential outdoor learning opportunity in the wildest region of the United States, apart from Alaska. One of the central texts of my course on environmental writing is John Muir's "A Wind-Storm in the Forests", which first appeared in Muir's 1894 book The Mountains of California. Muir's essay approaches botanical science in a fullbodied, emotionally engaged way, using a violent windstorm in the high mountains as a way to learn about trees - and also about the physical sensation of viewing and listening to wind, experiencing risk, and contemplating the meaning of wildness. The lessons of Muir's passionate essay remain salutary, even necessary, in the twentyfirst century.

Opsomming

Diegene wat lief is vir die natuur, het baie rede vir wanhoop in vandag se wêreld. Ongerepte natuur word omskep in gebiede vir behuising, en omgedolwe vir olie – en die een spesie ná die ander word tot uitsterwing gedryf. In hierdie wêreld mag ons onsself dalk net tot uitsterwing verhit. Midde-in hierdie skrikwekkende realiteit wend ek, as onderwyser en vakkundige op die gebied van omgewingsliteratuur, my dikwels tot die werk van die Amerikaanse skrywer John Muir (1838-1914) vir verkwikking en inspirasie. Ek verwys ook prominent in my onderrig na Muir, veral wanneer ek werk met studente van die Universiteit van Idaho se Semester in the Natuurprogram – 'n ervaringsgerigte buitelewe-leergeleentheid in die mees ongerepte streek van die Verenigde State, buiten Alaska. Een van die sentrale tekste in my kursus oor omgewingskryfwerk is John Muir se "A Wind-Storm in the Forests", wat vir die eerste keer verskyn het in Muir se 1894-boek *The Mountains of California*. Muir se essay benader botaniese wetenskap op 'n volwaardige, emosioneel betrokke wyse, met 'n gewelddadige windstorm in die hoë berge as 'n manier om meer oor bome te leer – en ook oor die fisiese sensasie om na wind te kyk en te luister, risiko te ervaar, en oor die

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betekenis van ongereptheid te besin. Die lesse van Muir se geesdriftige essay is in die een-en-twintigste eeu steeds goed – en selfs nodig ook.

1 A Windstorm in the Cascades

A few weeks ago, dreaming about what I might say in this article, I drifted into the hallucinatory early-morning haze of pre-awakening sleep to the sound of wind soughing through the trees beside my window. This was late January, not a season when we're likely to leave windows open to receive the scents and sounds of gentle breezes. It is mid-winter in central Oregon, and the sound of a windstorm will only penetrate the closed windows and solid walls of a house if the winds reach gale force. Dreaming of tree-climbing and amateur botanising, I heard the lodgepole (*Pinus contorta*) and ponderosa (*Pinus ponderosa*) pines in the yard moaning and straining in gusts exceeding 100 kilometres per hour.

A few hours later, with the sun up, my dog Hanna and I went out to survey the after-effects of this windstorm in the Oregon Cascades. We had run about a kilometre when I realised the storm was ongoing, and we were in fact in the thick of an extraordinarily intense and dangerous weather event. As we made our way along the bike paths in Sunriver, we encountered tree after tree on the ground, sometimes entire trunks, thirty metres or more, sprawling on the high desert soil, roots wrenched from the earth — some of these trees lay flat, while others perched on houses or power lines. One house we passed had three trees leaning across its roof. Even more interesting, to me, were the trees that had simply been snapped in half, like pieces of dry spaghetti, wood fibre split apart by the sheer force of wind. We passed hundreds of fallen or snappedapart pine trees during our five-kilometre run.

But the storm was not over. As we ran, we saw trees falling all around us — into yards, on the golf course, across the bike path, onto the road. I thought to myself: What would John Muir do if he were jogging with us this morning? Readers of Muir's famous essay "A Wind-Storm in the Forests", which I'll discuss below, might imagine that the nineteenth-century author, one of the central figures in American environmental literature, would have thrown caution to the side and searched for a climbable tree on an exposed promontory, seeking adventure and botanical knowledge. The thought of doing something like that never occurred to me. I took a few photos of thrashing and toppled trees with my mobile phone, plus a few photos of Hanna-the-German-Shepherd, her long hair whipping about in the gusts and her intelligent eyes asking me, "Can we get out of the storm and take shelter like any wise person would do?"

By the time I paused to notice the nervousness in Hanna's eyes, we were only five minutes from home, and the wisdom of seeking shelter struck even me, an adventure-hungry person. As I wrote a number of years ago in *Going Away to Think: Engagement, Retreat, and Ecocritical Responsibility* (2008),

"my own life as a writer, literary critic, and teacher is largely guided by the twin motivations of savouring life's intense moments and seeking to 'save' communities, places, and other phenomena that seem to require spokespeople" (1). The brisk wind on that winter morning was invigorating, thrilling – absolutely something to savour. And the thrashing trees were like a crazy dance party, with erratic whistling and cracking noises replacing what most humans would consider music. Imagine a human concert with the crowd gyrating rhythmically on the dance floor, and with a single tree standing stolidly amidst the commotion; during this violent windstorm in the Cascades, nature seemed to be holding its own dance party, with trees flailing about quite literally *in concert with* the wind and with one strange human being and his perplexed dog jogging through the chaos. Refreshed and excited, and also awakened to the riskiness of our presence among the falling trees by the look in Hanna's eyes, I allowed her to lead me home.

How much would you risk for the sake of adventure and botanical knowledge (or other kinds of ecological knowledge)? And what is the relationship between risky experience, science, and storytelling? This is what I would like to explore here.

2 Reading in the World – Being in the World

I have been attached to John Muir's work since the beginning of my involvement in the field of ecocriticism, which we thought of as "nature writing studies" when I was a first-year Ph.D. student at Brown University the fall of 1984. Having just moved some 5,000 kilometres across the continent from California (Muir's adopted home) to Rhode Island to begin my professional training in literary studies, I found myself missing the open spaces and dramatic terrain (especially the mountains) of the American West. I had only been in Providence, Rhode Island, for a few weeks when I came across a display rack of newly acquired books in the foyer of Rockefeller Library. My eyes went straight to the bright green cover of the new edition of John Muir's Wilderness Essays, which featured a black-and-white image of one of Albert Bierstadt's paintings of Yosemite Valley. I checked out the book, realised there was a special spark in Muir's prose (and in the broader genre of nature writing), and proceeded to spend the next thirty-five years (and counting) helping to develop ecocritical literary studies and interdisciplinary environmental humanities research and teaching.

In 1984, my goal was to become a skilled interpreter of literature and an expert in the tradition of literary scholarship. I was deeply text-oriented in my approach to literature in those days, even when the literature I studied was pointing outward towards the world. It didn't occur to me at first that the very writers I found myself attracted to – Muir, Thoreau, Burroughs, Ruskin, Wordsworth, Austin, Beston, Leopold, and many others – were rebelling

against the academic culture in which I was pursuing my ardent reading of their work and, soon thereafter, my teaching and writing about their work.

I soon made a point of reading every book by Muir I could get my hands on. One of the books I picked up after getting hooked on Muir was his memoir *The Story of My Boyhood and Youth* (1965[1912]), which he concludes by describing his own rejection of traditional academic pursuits:

From the top of a hill on the north side of Lake Mendota I gained a last wistful, lingering view of the beautiful University grounds and buildings where I had spent so many hungry and happy and hopeful days. There with streaming eyes I bade my blessed Alma Mater farewell. But I was only leaving one University for another, the Wisconsin University for the University of the Wilderness.

(Muir 1965[1912]: 228)

It hadn't taken him long to realise that his hunger to know about the world would guide him beyond city streets and library walls and into the undeveloped countryside of North America. He attended classes at the University of Wisconsin in Madison for two years in the early 1860s, where he studied an eclectic range of subjects, mostly in the natural sciences. Muir followed his brother to southern Ontario, Canada, and then made his way to Indianapolis, Indiana, where he was working in a wagon wheel factory in 1866 when an industrial accident sent a tool into his right eye and left him blind in both eyes for six weeks. When he recovered from his injury, he vowed to devote his life to the study of plants and to other natural history pursuits, including his fascination with geology.

Muir began a long cross-country trek from Kentucky to Florida, on foot, in the fall of 1867, later recording his first major adventure in A Thousand-Mile Walk to the Gulf (1916). Muir reached the Gulf of Mexico, but fell ill with malaria and nearly died. Upon recovering, he travelled to Havana, Cuba, where he was particularly interested in the shells he found on the coast and the plants he discovered in the city's botanical garden. By the end of 1868, Muir had travelled to California, where he quickly departed from San Francisco and made his way to Yosemite Valley some three hundred kilometres to the east. Fascinated by the plant life and geological processes that shaped the dramatic valley, he recorded many of his observations in letters to Jeanne C. Carr and other friends and family members. He was a devoted amateur naturalist and did not have explicit aspirations to become a professional scientist or author until Mrs. Carr began submitting his letters to The Overland Monthly, which published some of these pieces as scientific adventure narratives. Although his essay "On the Post-glacial History of Sequoia Gigantea" was published in *Proceedings of the National Association* for the Advancement of Science in August 1876, Muir's best-known scientific writing, such as "A Geologist's Winter Walk" and "A Wind-Storm in the Forests", appears in the form of experiential narratives that mix careful observation and richly emotional storytelling. The effect of such work is not

only to reveal technical discoveries about rocks and plants, but to lure the reader out into the world with senses alive. Even the present essay, written in the style I have described as "narrative scholarship", seeks to "use narrative as a constant or intermittent strategy for literary analysis ...". As I have argued on various occasions with regard to ecocritical literary analysis, "We must not reduce our scholarship to an arid, hyperintellectual game, devoid of smells and tastes, devoid of actual experience. Encounter the world and literature together, then report about the conjunctions, the intersecting patterns" (Slovic 2016a: 319). Muir, I believe, was a kindred spirit, but he dedicated his narrative studies to the texts of nature rather than the literary efforts produced by people.

The use of experiential narratives in literary and scholarly writing changes the way readers read texts. In American environmental literature, there is an abiding impulse to overcome the constraints and encasements of human technologies, to avoid succumbing to texts and machines that mediate our experience of the physical world, even when we are using such creations to deepen our understanding of our relationship to the world. An especially potent articulation of this idea is Scott Russell Sanders's comment in "Speaking a Word for Nature" (1987): "For most of us, most of the time, nature appears framed in a window or a video screen or inside the borders of a photograph. We do not feel the organic web passing through our guts, as it truly does" (Sanders 1996: 194). More recently, ecocritic Stacy Alaimo's insistence that a process of "trans-corporeality" brings the human body into unceasing contact with the external world is a de facto extension of Sanders's yearning to be reminded of our connection to "the organic web". Alaimo developed her thinking from New Materialist philosophers such as Karen Barad and Andrew Pickering. She quotes Pickering's notion of the world as a "post-human" space in which "human actors are still there but now are inextricably entangled with the nonhuman, no longer at the center of the action and calling the shots. The world makes us in one and the same process as we make the world" (Pickering 1995: 26). For her part, Alaimo focuses particularly on the biochemical "traffic between bodies and nature", arguing that "the most palpable example of trans-corporeality is that of food, whereby plants or animals become the substance of the human" (Alaimo 2008: 253). She points out that "The space-time of trans-corporeality is a place of both pleasure and danger – the pleasures of desire, surprise, interconnection, and lively emergence as well as the dangers of pain, toxicity, disability, and death" (Alaimo 2008: 259-260). This tension between pleasure and danger, which Alaimo posits as an unavoidable existential condition for human beings and other organisms, accords with John Muir's constant courting of thrilling adventure and life-risking peril. Muir anticipated Sanders, Alaimo, and other contributors to the environmental humanities at the turn of the twenty-first century, when he wrote in his journal on July 16, 1890, "Most people are on the world, not in it" (John of the Mountains 320), implicitly chastising himself

to seek contact with the world, though writing in the third person about "most people". I adopted this phrase by Muir as the epigraph (and title concept) to the 1993 textbook *Being in the World: An Environmental Reader for Writers*, in recognition of this essential truth of reading and writing about our place in nature: the need to achieve contact. This has become a vital tenet of my pedagogy when I teach environmental writing, as I will explain.

For today's readers and hikers in the America West, there are various academic and public humanities efforts to teach citizens that "reading in the world" is a way to "be in the world". Reading (or textual experience), in other words, can be a way to exist tangibly and meaningfully on and *in* the planet. One example of this is the placement of several poems on elegant placards along hiking trails in the foothills north of Boise, Idaho, including William Stafford's poem titled "Coyote". This poem consists of lines depicting how a wild dog might engage with the world through an acute sense of smell: "my nose rides along letting / the full report, the / whole blast of the countryside / come along toward[s] me / on rollers of scent". Although human beings, of course, enjoy the scents and sounds of the world as we pass through it, we are a particularly visual species, often needing to be reminded to activate and attend to our other senses.

When I ran with Hanna along the tree-lined bike paths of Sunriver during the January windstorm, I was focused on the sharp morning sunlight, glinting in my eyes and conveying the sight of waving branches and tilting trunks. While I could certainly hear the moaning of the trees, I'm sure the sounds were much more significant for my companion, Hanna, with her acute sense of hearing. I also found myself thinking that she was actually *smelling* the storm more than anything, experiencing the falling branches and uprooted trees through the intensity of pine scents and fresh dirt, clinging to tree roots. As we ran, I remembered Alexandra Horowitz's words from *Inside of a Dog* (2009):

We are visual animals. There's barely a challenge for second, either: audition is part of nearly every experience we have. Olfaction and touch duke it out for third, and taste runs a distant fifth

The order of operations is turned upside-down for dogs. Snout beats eyes and mouth beats ears. Given the olfactory acuity of dogs, it makes sense that vision plays an accessory role. When a dog turns his head toward[s] you, it is not so much to look at you with his eyes; rather, it is to get his nose to look at you. The eyes just come along for the ride.

(Horowitz 2009: 122)

I tend to think of dogs as "sensory prostheses", not only as living, sentient companions with whom we have meaningful relationships, but as tools for enabling us to be more sensitive to the world. I once argued in a lecture called "Dogs as Sensory Extensions of Self: A Gift" that dogs are a lot like nature writers in the way that each provides that extra level of awareness, of

sensitivity, to companions and readers alike, guiding our attention to the world. In some cases, as Alaskan author Richard K. Nelson demonstrates in *The Island Within* (1989), the author may derive some of his initial sensitivity from the hyper-awareness of his dog, which is then transferred into a literary text for the benefit of the reader. In Nelson's book there are frequent references to this prosthetic extension of sensory ability: "I turn to look at Shungnak, taking advantage of her sharper hearing and magical sense of smell. She lifts her nose to the fresh but nebulous scent of deer who must have come through here this morning. I watch her little radar ears, waiting for her to focus in on one direction and hold it, hoping to see her body tense as it does when something moves nearby" (Nelson 1989: 261).

Likewise, John Muir is a prosthetic nature writer, taking risks, extending his senses to the utmost, and then sharing his experiences with readers in animated prose. Muir's "A Wind-Storm in the Forests" is an especially unusual and enlightening work, for me, in part because of its emphasis on the aural and tactile exposure to nature by presenting the story of its author's fullbody experience of an extreme weather event in a groaning, gusty forest. For the past six years (2013-2018), I have used Muir's essay as one of the core texts in my environmental writing class in the University of Idaho's Semester in the Wild Program, which brings approximately a dozen undergraduate students out to the Frank Church River of No Return Wilderness in central Idaho for a three-month academic experience in the heart of the largest wilderness area in the United States (south of Alaska). The students study field ecology, environmental policy, environmental history, outdoor leadership and survival skills, and writing. The writing class helps to integrate the program's entire curriculum with the students' daily experiences living in simple canvas tents in the wild mountains of central Idaho, where they can hear wind whistling through the trees and wolves and coyotes howling and yipping in the nearby mountains as they sleep.

For four years, a central component of my writing class involved the reading of Muir's "A Wind-Storm in the Forests", followed by an outdoor activity and a writing exercise. My students and I would hike to the base of a large pine tree, read portions of Muir's essay aloud and discuss the style and content of the work, and then I would encourage the students to climb at least a few branches up into the tree, nothing terribly life-threatening. In many cases, my students had not climbed a tree since childhood – in some cases, the students had never been encouraged by their parents (certainly not by previous teachers) to climb trees. We did this exercise in safe, sturdy trees, not on high ridges during severe windstorms. When journalist Nicholas K. Geranios published "Students study 'abroad' in wilderness in University of Idaho program" (2014), he highlighted the Muir-inspired tree-climbing experience:

Slovic said the students "actually lived the types of subjects they were learning about".

"We read a John Muir essay about climbing a tree in the Sierra Nevada in a windstorm," he said, mentioning the pioneering conservationist. "And an hour later students were outside with me climbing trees."

University of Idaho officials, though pleased with the publicity the program was receiving in the mass media, frowned on the riskiness of my use of treeclimbing as a pedagogical tool, worrying that students might hurt themselves and sue the university. The next year, when my students and I read Muir's essay in the wilderness and set out to look for a suitable tree to climb, the managers of the Taylor Wilderness Research Station hurried over to tell me that the university had banned tree-climbing! I found it amusing that students would be allowed to live for three months in a wilderness area with rattlesnakes, mountain lions, bears, and wolves, but prohibited from climbing a few meters off the ground in a tree. Nonetheless, I acceded to the risk managers' demand, and, thinking on my feet, guided the students over to the banks of nearby Big Creek River, a tributary of the Middle Fork of the Salmon River, and asked each student to select a river rock, sit with it for half an hour and examine it closely, and then write about it for fifteen minutes, capturing its physical and aesthetic qualities and its ecological meaning. We then shared our writings about these stones before beginning a stone-skipping session with these and other stones from the rocky bank. The stone-skipping exercise has proven to be a way for students to be in physical contact with the natural world and to closely observe the shapes of rocks and the physics of bouncing rocks across the river surface, although the slight, slight risk of climbing into a tree has been removed from the experience. There is an energising feeling of adventure and risk inherent in wilderness field studies, even when students are not perched in trees. But the main benefit of transferring the tree-climbing activity to stone-skipping is the way the exercise encourages focused engagement with the physical world, especially when the students pause to examine their stones intensely. And the lawyers and station managers, so far, have permitted stone-skipping, while disallowing tree-climbing.

The activity of reading a literary text outside in a natural context and then either performing the activity described in the text (e.g., climbing a tree and reflecting on the physical and emotional experience) or approximating the activity (e.g., skipping stones rather than tree-climbing) is an essential aspect of what I call "reading in the world", which is a component of the broader practice known as environmental field studies. Day after day during the Semester in the Wild Program, during my three week-long stints with the students at the research station, we hike to various outside "classrooms", where we begin our discussions of language and writing by "wrapping ourselves in language", going from person to person, each reading a paragraph from the text we're studying at the moment. The experience of reading aloud, I find, helps the students to feel especially engaged with the words of other writers – they literally feel the words coming out of their own mouths. I think of this as a teaching practice that inspires students to "read their way into the

world". Thus, the technology of literature becomes a technology of contact rather than a technology of separation. Elsewhere, I've written about the bicycle – and the bicycle poetry of William Stafford – as a technology of contact.

3 Risky Experience, Botanical Science, and Storytelling

Muir's "A Wind-Storm in the Forests" is an ideal text to demonstrate the integration of empirical science, narrative language, and lived experience. Natural science and the humanities converge vividly in this essay, along with the idea that both science and art mesh intrinsically with our actual lives in the world. In this essay, Muir tells the "exhilarating" story of a research experience in the High Sierra of California, exhibiting substantial (and practical) botanical knowledge even in asserting that some types of trees are more susceptible to windfall than others:

There are two trees in the Sierra forests that are never blown down, so long as they continue in sound health. These are the Juniper and the Dwarf Pine of the summit peaks. Their stiff, crooked roots grip the storm-beaten ledges like eagles' claws, while their lithe, cord-like branches bend round compliantly, offering but slight holds for winds, however violent.

(Muir [1894]2013: 150)

Such knowledge is valuable even for adventurers (and scientists) not prone to tree-climbing, as even with feet planted on solid earth, one must be watchful for falling trees in the midst of a mountain storm. Many scholars have commented on the emotional aspect of Muir's writing about scientific topics, from the geology of glacial erosion to the distribution and behaviour of plants. The emotional energy of this language implies the author's sense of engagement with his subject matter - this is a science of contact rather than a Baconian science of detachment. When I teach tree-climbing or rockthrowing in the Idaho wilderness, I am often accompanied by my colleague Dr. Jim Kingery, a retired rangeland ecologist and ethnobotanist from the University of Idaho, who exhibits in his own love of plants the sense of heartfelt relationship displayed in Muir's writing. Jim jokingly refers to himself as "a plant-whisperer", although in reality the plants seem to whisper to him, not the other way around. He can scarcely walk for a few seconds, students in tow, without pausing to touch grasses and bushes along the trail and explain the botanical processes we're witnessing. When in plant-whispering mode, Jim demonstrates to the students (and to anyone accompanying him) what it means to be fully attuned to place and aware of the ecological interactions of the plants, animals, geology, and climatic processes of that place. The plants communicate with him in that he understands, without words, what they are doing physiologically at a given moment. He brushes his hands against them, grasps a leaf here, a tuft of grass there. He explains the nutritional value of a rosehip (plenty of vitamin C), points to other plants (such as willow trees) that provide an analgesic benefit if one has a toothache or an injury. This interactive process of knowing and touching the world is what he seems to mean by plant-whispering. For a plant person like Jim, not only a professional range ecologist but a true lover of all things botanical, engagement with plants is a daily experience, not requiring special conditions, such as a wild storm in the mountains.

For Muir, a dramatic weather event is an invitation to rush forth into the thrashing, cacophonous forest, not to cower indoors. He writes early in his essay:

One of the most beautiful and exhilarating storms I ever enjoyed in the Sierra occurred in December, 1874, when I happened to be exploring one of the tributary valleys of the Yuba River Instead of camping out, as I usually do, I then chanced to be stopping at the house of a friend. But when the storm began to sound, I lost no time in pushing out into the woods to enjoy it. For on such occasions Nature has always something rare to show us, and the danger to life and limb is hardly greater than one would experience crouching deprecatingly beneath a roof.

(Muir [1894]2013: 151)

Words such as "beautiful" and "enjoy" are not likely to find their way into standard scientific discourse, but they are essential to the aesthetic and emotional dimensions of Muir's botanical essay about the behaviour of trees in a major wind-storm. As mentioned above, the adventurer-scientist also deviates from more predictable visual approaches to botany by emphasising the role of "sound" in this meteorological-botanical study. The sound of the storm draws the writer into the woods, and indeed the sound of the wind becomes an object of study, not merely a context for observing other natural processes.

A particularly impressive feature of Muir's writing about trees comes in the seamless merging of precise natural observations and breathless storytelling. It is possible that some readers will encounter this essay and enjoy its drama without even realising they are reading *science* and learning about trees in their ecological context. Muir describes his selection of a particular tree to climb and the experience of clinging joyously to the upper branches of a windblown Douglas Spruce as follows:

Toward[s] midday, after a long, tingling scramble through copses of hazel and ceanothus, I gained the summit of the highest ridge in the neighborhood; and then it occurred to me that it would be a fine thing to climb one of the trees to obtain a wider outlook and get my ear close to the Aeolian music of its topmost needles After cautiously casting about, I made choice of the tallest of a group of Douglas Spruces that were growing close together like a tuft of grass, no one of which seemed likely to fall unless all the rest fell with it. Though

comparatively young, they were about 100 feet high, and their lithe, brushy tops were rocking and swirling in wild ecstasy. Being accustomed to climb trees in making botanical studies, I experienced no difficulty in reaching the top of this one, and never before did I enjoy so noble an exhilaration of motion. The slender tops fairly flapped and swished in the passionate torrent, bending and swirling backward and forward, round and round, tracing indescribable combinations of vertical and horizontal curves, while I clung with muscles braced, like a bobolink on a reed.

(Muir [1894]2013: 152-153)

Remember, this is 1874, long before it would be possible to place a digital device on the upper limbs of trees and then remotely gather data during eventual windstorms. In Muir's day, collecting data meant experiencing the world. But knowing what kind of data to collect required (as it still requires today) imagination, insatiable curiosity, and a commitment to gathering knowledge not only in order to prove a hypothesis but as a way to gather information that might, at present, defy interpretation.

Muir's ridge-top, tree-top ride was a synaesthetic experience, particularly rich in colours and sounds, much like my own experience running with Hanna through the Cascade windstorm nearly a century and a half later. He writes:

... notwithstanding this was the winter season, the colors were remarkably beautiful. The shafts of the pine and libocedrus were brown and purple, and most of the foliage was well tinged with yellow; the laurel groves, with the pale undersides of their leaves turned upward, made masses of gray; and then there was many a dash of chocolate color from clumps of manzanita, and a jet of vivid crimson from the bark of the madroños, while the ground on the hillsides, appearing here and there through openings between the groves, displayed masses of pale purple and brown.

The sounds of the storm corresponded gloriously with this wild exuberance of light and motion. The profound bass of the naked branches and boles booming like waterfalls; the quick, tense vibrations of the pine-needles, now rising to a shrill, whistling hiss, now falling to a silky murmur; the rustling of laurel groves in the dells, and the keen metallic click of leaf on leaf — all this was heard in easy analysis when the attention was calmly bent.

(Muir [1894]2013: 153)

In comparing a group of Douglas Spruces to a tuft of grass and the sound of wind-whipped branches to that of waterfalls, Muir is expressing an intuitive philosophy of the natural world as a realm in which seemingly disparate phenomena mirror and echo each other. Likewise, his storytelling easily integrates diverse phenomena and intellectual responses such as wind and plant matter, colour and sound, rational analysis and emotional experience. Later in the essay, Muir compares the movement of wind through the upper branches of the Sierra forests to the movement of Sierra streams "from their fountains to the plains", conceptualising a kind of ontological convergence of wind and water, perhaps akin to the Daoist notion of qi, or life-energy (Muir

[1894]2013: 154). According to classical Chinese philosophy, all things – people, trees, wind – are endowed with an essential life force, but especially in Western cultures, we tend to separate ourselves from the world, to consider ourselves somehow to be ontologically different than wind and plants. Muir had a different view of our relationship to other beings and natural processes, and he summed up this notion of essential convergence in his famous statement from *My First Summer in the Sierra*: "When we try to pick out anything by itself, we find it hitched to everything else in the universe" (Muir 1988[1911]: 110).

He concludes "A Wind-Storm in the Forests", by appreciating the fact that trees and people have certain essential qualities in common. His impulsive experiment (climbing and analysing trees mid-storm) in arboreal colour, sound, and movement has produced an aesthetic, emotional, and philosophical discovery, in addition to an understanding of how much wind-force trees of particular varieties can withstand. He explains:

We all travel the milky way together, trees and men; but it never occurred to me until this storm-day, while swinging in the wind, that trees are travelers, in the ordinary sense. They make many journeys, not extensive ones, it is true; but our own little journeys, away and back again, are only little more than tree-wavings — many of them not so much.

(Muir [1894]2013: 155)

As teachers of literature, environmental studies, and life, we would do well to keep in mind the botanical and cosmic lessons of Muir's "A Wind-Storm in the Forests". In various ways, this brief essay is emblematic of the entire field of environmental literary studies, the environmental humanities, and even environmental research and teaching on a larger scale. We abstract and isolate the lessons of this work at the peril of forgetting essential contexts and interconnections. If trees and humans possess fundamental commonalities, as Muir concludes in his essay, then wind and streams might also bear profound resemblances — and likewise science and art.

At the heart of Muir's oeuvre is the notion that risky experience will yield intellectual and emotional dividends. Calculated risk is essential, not incidental. We see this not only in the story of tree-climbing described above or in Muir's other famous mountain-climbing adventures, but in his decision to travel away from the wild country of California to experience even wilder landscapes, such as the distant mountains of Alaska. When asked to comment on Muir's first trip to Alaska in 1879 for *A New Literary History of America* (2009), I argued that Muir's pursuit of the "wild edges" of experience (in other words, his pursuit of knowledge by way of risk) embodies a motif at the core of American environmental literature in general and perhaps also in other national literary traditions:

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John Muir lived a life of physical adventure equaled in intensity only by his passion for the beauties of nature While Thoreau ... responded with trepidation and confusion to the heights of Katahdin, Muir sought to move closer to such wild edges. This impulse to capture the meaning of human experience in relation to the larger physical universe is also one of the abiding concerns of American literature, especially the genre described as nature writing or environmental literature.

(Slovic 2009: 371)

There are many examples of American environmental writers who have "sought a language to match the richness and intensity of their experience" (Slovic 2009: 374), such as James Dickey's story of a desperate struggle to survive a river trip gone awry in the novel Deliverance (1970), Robinson Jeffers's realisation in the poem "Oh, Lovely Rock" (1938) that even a rock wall in California's Ventana Creek Canyon near Big Sur is endowed with a kind of life energy, Annie Dillard's quirky yearning to dive for a wild weasel's throat and cling to it with her teeth just as a weasel might grasp its own prey ("Living Like Weasels", 1982), Rick Bass's celebration of every wild and inspiring moment of our lives in Wild to the Heart (1987), and Terry Tempest Williams's suggestion in *Desert Quartet* (1995) that humans might achieve a rapturously sensuous connection with the physical world. In my 2009 essay, I pointed to Jon Krakauer's eloquent and controversial biography of Chris McCandless, Into the Wild (1996, revised edition 2007), as a particularly direct extension of Muir's lineage of celebrating wildness and risk. McCandless's story, which ended with the young man's solitary death in the wilderness near Denali in Alaska, the highest mountain in North America, is also directly pertinent to the issue of botanical risk. Although McCandless did not die by falling from a tree (or having a tree fall on him, as could have happened when Hanna and I were running during our windstorm in the Cascades), he did apparently ingest a toxic amino acid that exists in the seeds of the Eskimo potato while struggling to survive when there was no game to hunt – in other words, Krakauer's Into the Wild is a story about relishing life and language, about botanical risk, and about appreciating the wild edge of experience.

Even when university administrators, leery of lawsuits, intervene to prevent some varieties of pedagogical risk-taking, adventurous teachers can find ways of challenging and inspiring students, substituting stone-throwing for tree-climbing – and exposing them to the mind-expanding exploits of writers such as John Muir, whose words guide us to savour what remains of the world's wildness.

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