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WHEN THE SAP FLOWS: AFFECTION AND INDUSTRY IN THE MAPLE WOODS

By

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B.A., Whitman College, Walla Walla, WA, 2009

Thesis

presented in partial fulfillment of the requirements
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Abstract: When the Sap Flows: Affection and Industry in the Maple Woods

Chairperson: Phil Condon

This thesis arises from my time waiting for, collecting, and boiling sap from maple trees into syrup. I spent four months in the Adirondack Mountains of upstate New York working for a modern commercial sugaring operation and sugaring in the old-fashioned manner—with buckets and a wood-fired evaporator.

The narrative follows my journey as a lifelong Westerner traveling east to learn an old tradition with my hands. Instead of observing how the warmth of a changing climate was affecting maple sugaring, I was thrust into a landscape defined by cold, during one of the coldest winters on record in the Northeast.

The pith of the story centers around my inquiry into what Wendell Berry calls “the real work” and Robert Bringham names “vocation.” What calls to me in life? What jolts me into feeling alive? What do I value? Based on what I value how and where should I live?

In many episodes, I begin to craft ways I would like to live in relation to the earth and its communities, my loved ones, and myself. I share my own struggle to approach the world affectionately, graciously and deliberately. I investigate what defines home for me, and how I can come to know that home more intimately. And I question the intentions behind collecting sap from the maple trees. Should sap be received as a gift or taken as a commodity?

Through a long grip of winter and a splash of early spring, this story seeks to understand place through work, love through play, and purpose through question.

Acknowledgements

There are many who made the adventure of this thesis possible. I want to thank Phil Condon for his guidance and encouragement along the entire arc of this thesis starting with my far-fetched idea to move across the country and spend a few months trying my hand at making maple syrup. Amy Ratto-Parks and Tom Roy also provided valuable feedback to make this work into the best it could become. The Environmental Studies faculty, students, and staff have repeatedly given me inspiration, enlightening moments, and focus throughout my time in the program.

Mike and Laurie Devlin deserve much gratitude for letting us stay in their warm cabin, allowing me to tap their trees, and making me feel at home in their family. They taught me an invaluable amount about their place, their home, the Adirondacks. The Uihlein Forest, Mike Farrell and Chuck St. John were all generous in teaching me the ins and outs of a modern sugaring operation. I am grateful too for my dog, Adi, for teaching me to not take life too seriously, and for the Adirondack Mountains for reminding me how winters once were.

I want to thank my Dad, who thought I had a good story to write from the beginning and helped me to find the pith of it. And I am grateful to Paige, my love and companion, who is willing to explore and probe at life unceasingly with me, and always lends her strong support.

I want to thank those who have come before me and those family and friends who surround me now. They have all crafted the foundation on which I stand. Finally, gratitude is owed to the maple trees, for the sap they gave to me this year, and for the sap they give to many year after year.

The Real Work

*It may be that when we no longer know what to do
we have come to our real work,*

*and that when we no longer know which way to go
we have come to our real journey.*

The mind that is not baffled is not employed.

The impeded stream is the one that sings.

-Wendell Berry

Part I

Earth

Prologue

January 17th

We leave late in the afternoon, too late to make it out of Montana to the east and south into Wyoming, but neither of us minds another night in our adopted state. We've picked out an old Forest Service cabin, fifteen miles south of Highway 90 on the West Fork of Bridger Creek. It's a spacious two-room structure with green metal bunks and a wood stove. Simple. I notice the one- by- four trim around the doors—the header trim, the horizontal piece on top of the door, flares out at a forty-five degree angle where it joins with the vertical trim. I'm attuned to the detail because I've been remodeling a house. I should say, we've been helping to remodel a house—not our house, nor our money, nor our skilled labor.

The house is an investment in Missoula, bought by the parents of my girlfriend, Paige. We're lucky to live in a house that almost feels like ours, just the two of us, and our dog, Adi. The rate's generous. We have a garden we love to tend to.

The Devlins would like to see the house remodeled to generate equity. We were eager to remodel too when we tore down the interior walls a year ago, in mid-winter. We imagined a clean transformation to an airy, sun-splashed home in two weeks. Eight months later, the house looked the same—floors ripped up, studs uncovered. I was trundling through graduate school; Paige was teaching kindergarten. That's when we found Dean, the carpenter.

I admire finely tuned skills, perhaps because I lack any, or because they have become unequivocally rare. Dean had mastered the craft—the art—of finish carpentry.

His cuts were precise the first time; his nails were never second-guessed. He could install a window in about the time it took me to measure the rough opening.

Not only was Dean a fine carpenter; he was a mobile carpenter. Every tool in the catalog emerged from his roll-em-out, fold-em-out, customized Ford Ranger.

When he wasn't working, Dean loved to talk. He rarely did both at the same time. He talked about how he epitomized the American consumer— always in debt over his head—he griped about the Fed or his wife, but mostly he talked about how to remodel a house right. He never told us what to do outright, but he made strong suggestions (“Now, I'm not telling you what to do, I'm just saying if it were *my* house, what I would do is pull *all* that crap particle board and vinyl tile *out* down to the sub floor, *then* install your new floor.”) We followed his recommendations, and provided the unskilled labor. After we prepped, Dean came in with his nail gun and mitre saw and finished.

There was one project I'd taken on myself: to transform a dark, unused garden shed in the backyard into a simple writer's shack. I gutted, insulated, sheetrocked, mudded, installed second-hand laminate flooring, and built a desk for the fifty-square-foot shack. Dean zipped in the window level and plumb in a half-hour, relieving me of half a day's struggle and a lopsided window.

Paige rolled the last layer of matte white paint on the shack's walls on the cusp of winter. Missoula dropped to “old days” temperatures for the next week —fifteen below at night and never touching zero through the day. This cold was still novel and invigorating to me. It hadn't acquired that beastly, steady, gnawing character I'd heard about, that forced you inside at all hours of the day, and made you feel hopeless.

I donned a down coat, hat, and two pairs of pants and went for runs in the dark along the river. The water was frozen as if it had solidified in an instant—the ripples and current locked in movement.

No one was outside in the cold and dark. I didn't run far because it seemed dangerous, as if the cold could trip and smother me. If the icicles on my eyelashes were disconcerting, the hardened snot in my nose was downright frightening.

I bought a radiant heater and extension cord for the shack. For the first hour inside, I'd stick my hands in gloves between rappings on the keyboard, but soon it approached sixty, and with a cup of hot tea I could spend the length of the evening in there. From the house, it glowed like a warm oasis in the still winter night. A place for reverie. It was here where I thought first about another shack—the sugar shack.

The sugar shack I knew was in Lake Placid, New York, and looked about the same size as my new writer's shack. It sat at close to the same latitude and big rolls of earth folded into mountains before both doors.

In Missoula, my surroundings were lawn, raised garden beds, and a grid of streets. In Lake Placid, a grove of a hundred sugar maples stretched upslope from the shack, and beyond the maples were more trees—thirty-five acres of hardwood forest shared with three other structures. If you peered inside the sugar shack, through the locked half door, you'd see the tool for turning sap into maple syrup—an old two-pan, two-by-six-foot, stainless steel Leader Evaporator resting on top of a half-barrel firebox with a flue at the back.

The sugar shack was conveniently located on the Devlin's property, the same property Paige had grown up on, in the Adirondack Mountains of upstate New York,

locally called the “North Country.” I had reasons that sounded good for moving across the country to make maple syrup—I had an environmental studies master’s thesis to write, I didn’t have any outstanding ideas, and I thought I could bring the voice of a life-long westerner to a pursuit that is grounded in the Northeast.

But in truth, it was pure romanticism that pulled me east. I had fallen in love in the Adirondacks and begun to fall in love with the Adirondacks. It was five summers before, the first time I was there, and every sensation buzzed as if I had just learned it.

It rained most of the time—fantastic warm rain from thunderheads. The woods were green and sopping and I could name none of the trees. I went to bed in the basement of the Devlin’s house with my skin tingling, still absorbing Paige’s kind, warm touch. Though I hadn’t known any women before her, I already knew I wouldn’t find another like her. Her compassion was absolute, her innocence, enduring.

I woke up eager to let this place seep across my skin into the pith of my blood where it would be remembered. She told me stories of her childhood, and I followed her small pink lips, held her eyes—green like life itself—and listened.

When I visited in the winter, two years later, the enchantment only grew—skating the windblown ponds, skiing twisting trails lined with birch and maple, and hunkering by the fire in the log house at night as the cold closed in.

The decision to travel east was easy for both of us. Paige missed her family and they missed her. They hadn’t seen her much since she decided to go to college 2,500 miles from home. And I wanted to get to know the Devlins better. They could become my in-laws soon enough.

I wanted to learn how to make fresh maple syrup too. My picture of making syrup was as romantic as the Adirondacks. And why shouldn't it be: watching steam billow out of the cupola of the shack into the cooling, settling mountain air at dusk, collecting metal buckets of sap in the pillows of snow with the sun of spring warming your neck, pouring steaming, delectable syrup off the evaporator straight into a mug and drinking the liquid gold. Maybe I could get my hands on horses and a sled too?

I researched more and noticed changes in the maple sugaring world. It had become an industry. There were plastic tubing systems, and vacuums, and reverse osmosis machines. There was an international governing body, and a new grading system. There were farms tapping 50,000 maple trees. The backyarders still mostly used buckets, but the romanticism looked like it was slipping away.

As it expanded, the sugaring industry was also threatened by collapse. The insidious Necromancer—climate change—would slow or shift when the sap ran from the spouts. For the last few years, rain in the Adirondacks came in January instead of April. The start of the season waffled unpredictably. Some climate models suggested that in the long term, sugar maples would not remain in upstate New York and New England as the arriving warmth pushed them out.

There were stories to write in the Adirondacks—stories on industry, on climate, on joys of simple living, on winter, on love. We didn't have jobs to leave anymore; the opportunity was there. We just needed to finish the remodel.

Journey

January 17th-20th

There's hardly any snow on the West Fork of Bridger Creek. It's a windblown crust, a few inches. There is more snow here, in the dry foothills of southeast Montana, than in Missoula, where the surrounding mountains have warmed to brown in the last week. The sun's been radiating like the steaming days of early spring, and even the glare ice, a fixture for weeks on all the well-trod trails of the city, has melted away.

We hear the Adirondacks are starved of snow too. We love to ski, without the aid of gravity, in that swinging, balancing gait called cross-country skiing. If you race on cross-country skis, or you're Scandinavian, then you call it nordic skiing. The signature nordic race in Lake Placid has already been postponed from January until March in the hopes of a late winter. Our hope is for winter to arrive when we do.

There are other reasons, besides chasing snow, why we are traveling east so early in the year. Maple sap doesn't require snow to flow, it just needs a freeze and thaw cycle. Thaws and sap flows have come in January, and I don't want to miss out on a drop of the three to six week sugaring season.

We planned to take our time driving across the country, stopping in Yellowstone, in the hopes of a wolf sighting, or at least a hot soak before slogging through the heartland. But Paige got a job as assistant nordic ski coach (high school racers!) in Vermont and needs to be there in three days, snow or not.

It's forty-one degrees on the West Fork of Bridger Creek, when we pull in with a Subaru loaded to the gills. Our dog, Adi (full name: Adirondack) has it the worst,

confined to a single seat in the back with a guitar hanging overhead, skis sliding in from the side, and sleeping bags stuffed below her. She gives a whine that sounds like a sigh and means “I need out,” as we arrive at the cabin. She’s some black Lab, mostly Rottweiler, but smaller than both pure breeds. We picked her up at the humane society two years ago. She’s as affectionate as a purring tabby to people but as ferocious as a snapping hyena to any form of prey (squirrels, cats, deer, yellowjackets). She doesn’t have the success rate of a hyena, but damned if she isn’t persistent.

We finished the remodel before we left. It’s a beautiful two-bedroom house now with a new kitchen, refinished floors, and a bar. It doesn’t feel like it’s ours. It’s not ours. But it’s the most home either of us has had since leaving California and New York, enough of a home that for the first time in our lives we didn’t leave for Christmas. No one visited either; it was just Paige, Adi, and I. We skied, watched *Miracle on 34th St.* on my request, and gave each other presents, picked from under the potted, live fir tree.

Knowing the house was not ours was actually comforting. It meant I wasn’t quite as grown up as I feared, at twenty-seven years old. There was a lawn to mow, a garden to sow, and those parts I honestly enjoyed, but no mortgage, no job, no one telling me I had to stay there. We could leave at will to chase our passions or our whims, and we did, clearing the house out for renters, and packing the car with everything we might need for four months.

When morning arrives on the West Fork of Bridger Creek, the full moon is setting over the fiery orange hills to the west. Somewhere in those glowing hills the riffing creek begins which we follow east out of the hills of sagebrush, juniper, and

lodgepole pine. At the interstate we turn towards Billings. At Billings we turn south. Before we leave Montana, we pass by the site of the Battle of Little Bighorn. It's wide-open grassland and scrub. Not a tree to hide behind.

We pass through the Powder River Basin of Wyoming. Coal country. Desolate. Wasteland. We've lost the deep green pines and firs and hurtled into blue sagebrush, red dirt, and squat junipers. I like to imagine having to live a life in a place like this. I'd get in the habit of following eroded washes to their sources. I'd search for lizards. I'd travel far to sit under cottonwoods, and stay if their cotton-like seeds were taking flight that day.

The sky isn't as big here as it is in Montana. The steady bump of topography keeps your eye searching for a grand vista over the next rise. We had our last glimpse of big sky this morning as we drove towards Billings. To the south, the broad icecap of the Beartooth Mountains rose above the dry country like a puffed cloud. It was landforms like those, far off and grand in scale with bounding broad valleys before them, which framed the sky and placed its vast dimension into perspective.

In the Northeast corner of Wyoming, we leave Interstate 90 to see the great monolith—Devils Tower. We arrive at sunset, just as the igneous cylinder turns a burnt orange and reminds me of the southwestern sandstone. There's a peppering of snow on the top like a thin crop of hair on a long square face. Up close, the big column appears to be built out of thousands of smaller geometric columns.

In the center of the tower's southern face is a great seam rising from base to top, a fissure deep enough to be in shadow in the light of the setting sun. The seam looks like the heart of the tower, the place from which growth started and spread upwards and

outwards. A geologist would tell you the tower is peeling off a skin and revealing more of its igneous interior, as the sedimentary rock falls away from the igneous intrusion (or laccolith).

Such an unexpected growth from of the earth's crust begs for a creation story. The Lakota Sioux called it Bear's Lodge Butte. In their story, the Great Spirit made the grey rock rise from the earth after listening to the pleas of two girls being chased by giant bears. The bears left claw marks from trying to climb the tower. These are the scratched cracks I see on both sides of the igneous columns. Bear Lodge Butte became Devils Tower when an 1875 U.S. Army expedition misinterpreted the name as Bad God's Tower.

The next day, we cross South Dakota with a thirty mile-per-hour tailwind helping our car cruise at eighty-five miles per hour. It's fifty-five degrees on the 19th of January and there's no snow. We stop in the middle of a restored patch of prairie to let Adi out to run behind the car. We get out to lean into the wind and I snap pictures to make it appear that the prairie is never ending, though I can see it bounded on all sides by farms and roads.

At dusk we arrive in Southern Minnesota and stop to ski. Minnesotans love to nordic ski, and there are trails right off the highway. The snow's returned, but the tracks are icy—it's been warm. The trees have returned too and I suspect they are different trees than I know now, hardwoods that will stretch east from here.

We continue east and stop in La Crosse, Wisconsin to eat corned beef at an Irish pub and watch the fourth quarter of the playoff football game.

Driving through Wisconsin the next day, we notice more semi trucks. The interstate's crowded for the first time. In Illinois, we pay to drive on the roads.

First toll road—\$4.25. Toll roads and turnpikes will cost \$32.50 from Illinois to New York.

The traffic multiplies as we approach Chicago O'Hare airport. I've forgotten how to drive aggressively. I haven't needed to fight to claim my chunk of pavement for a long time.

I leave Paige at the airport. The ski academy needs her now, and they have the money, so off she whisks to Burlington, Vermont.

Adi moves to the front seat. She pants as I crank the heat across northern Indiana and into Ohio. The temperature's been dropping all day and after a few cautious flakes, the night sky lets loose a full-fledged snow squall. I slow to 50 and shudder as truck after truck barrels past at 70.

I drive halfway to Cleveland and start looking for a hotel. I exit and enter the turnpike a few times and can't find a hotel or even a town. The snow continues falling around me and I start to think I might have to drive all night if I can't find my way off this eternal pavement. It wants me to keep driving, keep moving without seeing a glimpse of anything or anyone. If I kept going like all the trucks, I could make it into the western corner of Pennsylvania. But I need to stop.

I find a Travelodge and pay \$82 for a room that was new in the 1970s. I'm not sure what town I'm in, it's still snowing hard, and I can't help but think of the Twilight Zone. It's ten degrees when I get out of my car. Tomorrow, I'll be in the Adirondacks.

Arrival

January 21st

Hi: 15 Lo: -21

It drops to seventeen below zero twenty miles east of Watertown, New York, where I enter the Adirondack Park. It's nine o'clock at night, and I'm just a bit worried. The cold is tight; it encloses towns (villages or townships they call them here) in its grip. No one is shoveling snow, or walking to a neighbor's house, or driving to a neighbor's house.

I can't tell if there's ice on the road, so I pull over, keep the car running, and walk onto the asphalt. It's hard, and not slippery, but I reach down to feel its grit to be sure. God, it's cold out.

There are no towns for miles and no cars either. At least I have down sleeping bags in the car. I remember a night last winter, when Paige and I camped in the middle of the Nevada desert on a negative three-degree night to avoid paying for a hotel. We zipped two zero-degree sleeping bags together, but the creep of cold slipped in like icy water trickling below your clothes. Adi was shivering so violently, we let her in our bags to sleep between us. She was the only one who slept that night. By all measures, it was a two-dog night.

I blast Fleetwood Mac, sing just as loud ("and if you don't love me now, you will never love me again") and drive faster than I should. It's a relief to know I'm back in charge of my fate on the road; the errant nod of a trucker can't smash me into a pulp.

The road winds, rises and dips, keeps me awake. Conifers have returned to the forest as we approach the mountains. The white skeletons of birch trees pop out of the darkness. Somehow, the road is familiar, though I don't know what it looks like ahead.

In Saranac Lake, ten miles from journey's end, it dips to negative twenty. Then, miraculously, it warms to negative sixteen, even as the road climbs to Lake Placid. I turn up the Devlin's half-mile dirt driveway. Halfway up I pass by the sugar shack, moon bouncing off its sheet metal roof. I wonder how soon before I'll be boiling sap in there, how long the cold might endure.

The house is warm though no one is at home. The Devlins have begun wintering in Florida. The only inhabitant sidles up, purrs and nuzzles against my leg as I enter. His name is Charlie; he thinks he's a tiger and he owns this house. I know Charlie can hold his own, but I also know Adi will try to kill Charlie, and I keep them separate for now. Perhaps a hearty slap on the nose in the morning will teach Adi to give Charlie some distance.

Though my sole companions are a dog and a cat, the house doesn't feel empty. I sleep in Paige's room, the same room where we would intertwine our bodies, feel skin that was not our own, skin that was tingling and electric, long into those damp summer nights.

She is there in the room. Above the bookshelves is a Degas, an impressionist painting of little girls lined up at the bar in their ballet shoes listening with intent to their teacher. They're limber, eager, innocent. Next to it is a painting of a naked young girl and her black lab sitting on a dock by a pond with their backs turned to you. It's titled "Bathing Beauties." There's currency tacked up from around the world: Danish and

Swedish Kroner, British Pounds, Swiss Francs, and Botswanan Pula (these notes, I gave her). There's one pair of old wooden skis, and one modern plastic-coated Germina ski with a crack in the middle where it snapped in half. Her sister's room is plastered with ski posters, but she has none. The room's not just a reflection of who she was; there are mirrors of who she is.

I walk onto the deck before I sleep. Heat escapes from chimneys in long white, straight cords. Red lights blink from the tops of the ski jumps, the tallest structure in the valley. White lights across the valley outline the curve of the bobsled run. This town has hosted the Olympics twice. In 1980 they played host to one of the greatest moments in U.S. sporting history—the Miracle on Ice—the upset of the powerful Soviet hockey team by the Americans for Gold. They're still very proud of that here.

The High Peaks of the Adirondacks loom large to the south. They are behemoth humps in the dark, each with a cap of white. In the cold and dark, they are forbidding.

What I Know

January 23rd

Hi: 4 Lo: -23

What I know about pure maple syrup is it's at least 66 percent sugar by weight. To sell it lawfully in New York it should be 66 percent sugar. If you're in Vermont or New Hampshire it must be 66.9 percent. New Englanders pride themselves on the sweetness of their syrup.

A sugar-maker checks the sugar percentage accurately with a hydrometer—a small, fairly simple piece of equipment which you gaze into like a telescope to read the density, before consulting a table based on temperature to determine the brix (sugar content). *Backyard Sugarin'* called the hydrometers “useful but not necessary.” I won't be selling the syrup I make at the Devlins, so I won't use one. We will use them at Emmons Forest where I'll be making my living at sugaring, for the next few months.

The Devlins are acquaintances with Aaron who runs Emmons Forest as a research facility and a model for commercial sugaring technologies. In December, I called him to see if I could intern at Emmons Forest to learn the inner workings of a modern sugaring operation. He normally hired two employees for the sugaring season and was happy to take me on and support my learning experience. He'd even pay me for it.

Aaron's mission appears to be to promote all things maple around the Empire State and the entire sugar-producing region of the country. In January, he attended maple open houses every weekend to talk to backyard sugarers, farmers, and commercial operators alike about how to make maple sugaring profitable, what technological

investments would pay off, and what a hopeful future sugaring had in New York, Vermont, Pennsylvania, Michigan or wherever he found himself.

Aaron wrote his dissertation on the business case for maple syrup. In it, he discusses the nearly limitless, untapped—pun blatantly intended—potential around the Northeast and Midwest to bore a hole in hundreds of millions of trees that were mostly just growing and aging, tap-free, on public and private land. In New York 2,011,000 sugar and red maples were tapped in 2011. That is less than half of one percent of the maple that could be tapped in the state.

Aaron's promoted maple at Emmons Forest for a decade, and though he is young, he seems to know everything there is to know about maples. The production has grown under his tenure. They now tap 5,100 trees at Emmons. I'll be tapping at least a third of those trees once it warms up enough to tap.

Aaron tells me it should be at least fifteen degrees to tap the maples. It's not that the trees are adversely affected by drilling a hole in their bark and hammering a plastic spout into their sapwood at say 5 or 10 degrees, it's just not comfortable for the driller and hammerer. In my idyllic image, tapping is a pleasant activity: wandering stands of maples on blue sunny mornings with the temperature rising into the twenties, watching shadows shorten then lengthen on the canvas of snow through the day, stepping lightly between the trees on a firm crust, looking for the dance of hare and fox in dimples of white, and studying the intricacies of the bark on my subject—the sugar maple tree.

What I know about sugar maple trees is when the sap starts to flow, it's colorless and only two to two and a half percent sugar. Of all the maples, the aptly named sugar maple has the highest sugar content. What I didn't know until Aaron told me was that

every maple tree will let sap—nutritious energy moving towards the buds—flow out of its xylem (or sapwood) if cut or drilled into. Most species of maple are not tapped, either because the sugar content of their sap is too low to make it worth the endless hours of boiling, or because they do not produce the same refined taste as maple syrup.

To get from two or two and a half percent to sixty-six percent requires 32 to 40 gallons of maple sap for every gallon of syrup and one gallon of fuel oil or wood equivalent. For a gallon of Big Leaf maple syrup, one of the few tappable maples we have in the West, it takes a similar amount of sap, but the Big Leaf maple flows sap in erratic fits and starts over a five-month period, instead of the concentrated flow of the sugar maple over three to six weeks. There's also a fancy reverse osmosis (RO) machine which concentrates the sap through membranes and makes it much easier to make syrup, but that's not what I know now.

What I know about sap flow is it needs above freezing temperatures during the day and below freezing temperatures at night to flow. In the Adirondacks, those weather conditions could arrive in January or April, but often they come in March. In Vermont, farmers would always count on sap flow around or on Town Meeting Day, the second weekend in March. Two years ago, a third of the sap flow came in January and the season ended by the middle of March. Last year some syrup was made in January and February but there were heavy flows in April.

It seems to be awfully optimistic for the farmers in Vermont to count on maple season starting on about the same weekend every year. But until recently, farmers have often been optimists. Today, industrial agriculture takes chance and any need for optimism out of the equation. Crops are nearly guaranteed by planting genetically

modified, Roundup-ready seeds, tilling with great tractors, irrigating with unlimited water, and over-wintering with climate controlled greenhouses.

Maple sugaring's never guaranteed though. It's not a crop; it's a wild grove of trees. Farmers have planted maples to pass on to subsequent generations, but maples are not yet farmed as a plantation-style crop. If you're tapping it, it's been there for at least thirty years. It's going to start flowing when the sun heats the air to above thirty-two degrees—maybe a bit below if the sun is warming the trunk of the tree, or a bit above if it's cloudy or snowing—and it'll stop flowing when the mercury won't dip below freezing or the tap holes start to close—heal over—because they've been open for too long and the tree wants to close up its wounds. Today, you can get more out of each tree you tap, process it quicker, and extend your season slightly with technological advancements, but the start and end of your season is mostly dependent on the weather. And I think that weather used to be a bit more dependable.

There are three more things I know:

The syrup made at Emmons is incredibly pure—it's sweet but doesn't taste like sugar, it's not watery thin nor does it pour like molasses, and it's a deep amber color, like the ochre bark of a bristlecone pine. In my first meeting with Aaron, I get a pint of it and start pouring myself a spoonful after meals.

I've heard that the sap that flows from the maples early in the season, when it's two and a half percent sugar, tastes better than coconut water straight from the coconut. I plan to drink it instead of water when it starts dripping from the trees.

I can recognize the sugar maples by their bark now—they are grey, with bits of green moss, or yellow and white lichens in narrow strips that don't overlap much and are

furrowed. As long as I can pick out the maples, I won't tap the wrong trees. Almost all the maples in the Adirondacks are either sugar maples or red maples. Red maples have a lower sugar content but they can still be tapped. I'm eager to start tapping.

Vermont

January 28th

Hi: 32 Lo: -4

I've been trying to figure out what they do in Vermont to make their farms look so clean and perfect, their food so sumptuous, and their towns so quaint. The only visible sign I've seen of anything out of order are the roads. Gravel and dirt roads in Montana look better than the crinkled blacktop I've driven here. The forty-five mile per hour speed limits on all two lane roads in Vermont were cute and safe compared to seventy mile per hour limits back home, until I realized the speed limit was accurate. Some of the roads are steeper and more sinuous than the roughest mountain passes in the West.

I've come to visit Paige in Waitsfield where she's ski coaching. It's a short two-hour drive to Vermont, around the southern end of Lake Champlain, the long narrow lake separating New York and Vermont, then due east past white fields and barns until the land climbs steeply on those terrible roads to Appalachian Pass and descends into the Mad River Valley.

On Paige's day off we drive north to Stowe Mountain to go for a ski. Something's missing from the roadside and I realize it's signs. There are no billboards. Only small handmade signs that you've already passed by the time you've read them and realized you wanted to stop. I don't see any chain stores. We pass the Cabot cheese factory and Lake Champlain Chocolates. We miss the sign for the apple cider vendor, but turn around because Paige says we can't miss apple cider donuts.

Missoula's becoming a local food mecca, but Vermont's been modeling it for decades. (And they manage to attract people without signs!) Still, it's hard for me to imagine that all Vermonters subsist off local food and seasonal tourism. I develop three hunches of why this Vermont prosperity may have come about:

Everyone wants to visit Vermont all the time—there's a cute, artsy, New England town here for the wallets of New York bankers, Philadelphia lawyers, and Boston tech workers alike.

Vermonters have some of that Yankee ingenuity—how else could they make so much good food in such a crummy climate for growing.

Vermonters bring cash with them or live without much of it—people want to live in Vermont badly enough to take (gasp!) a lower paying job and raise their children in a wholesome, rural community. Or they keep their jobs and work mobile. Or they don't need or even want money because they're artists and writers who are perfectly content living upstairs in an 18th century white and red barn, and wearing thick sweaters in the winter.

I soon realize my hunches only explain the visible surface of Vermont. When I turn on Vermont Public Radio, the first story I hear tells me that the entirety of the governor's "State of the State" address this year was devoted to cracking down on the drug problem in Vermont. Marijuana's not the problem: it's heavy opiates being run up from New York City and sold for three to four times the cost. Vermonters do struggle and suffer like the rest of us.

My first ski in Vermont is through a heavy snowstorm up to a pass called Smuggler's Notch. When we arrive at two boulders—glacial erratics—deposited at the

Notch between ice-encrusted mountains and look down the other side, I see a settlement tucked into a mountain valley that looks like it could be hidden from time. It reminds me of driving up into narrow valleys in Montana—hay stacked in the field, cows ranging up the hills behind bedraggled barbed wire fences—and imagining that I'm arriving for the first and last time, to start a homestead at the end of the road.

There are pockets of Vermont where you could have a 19th century homestead. You could keep your food for yourself instead of selling it to the locavores, and not have any street signs to your house in the woods. Some people do that here. It's reassuring to find that do-it-yourself, self-reliance out here so far from the ranches of Montana.

The only redeeming part of our second ski in Vermont are the \$3.50 lift tickets. It's Mad River Glen's birthday and they've rolled back the clocks to the 1948 lift ticket price. It's around five degrees at the bottom of the mountain when we arrive. I dodge shrubs, rocks and ice for three runs. Paige skis one run. We get our money's worth and experience the only operating one-person ski lift in the country.

Mad River Glen also has the distinction of being the only skier-operated ski hill in the country. They're a cooperative, and don't have any money to spend on expensive snowmaking equipment. I can't imagine them being in business in another ten or fifteen years if they're still owned by the skiers. There's no snow here at the end of January. Soon that might not be rare.

The snow here may decline into legend, but I'm not worried about Vermont's future. It's the place Paige would've lived if she'd never moved to the West. It's the place I'd live if she had wanted to live in the East.

Plastic

January 29th

Hi: 8 Lo: -3

“Some day plastics may drive metal out of sugaring, just as metal once drove wood,” wrote Noel Perrin, English professor and thrifty sugarer, in his 1972 book, the *Amateur Sugar Maker*.

Perrin was writing his observant, entertaining little book at the beginning of the transition to everything plastic in the collection of maple syrup. Plastic tubing emerged on the market in the early 1960s, and by 1965, according to the *Maple Sirup Producers Manual* (*sirup* traditionally referred to boiled, concentrated sap, and *syrup* was what you got when you added sugar to fruit juice) there was a “noticeable change in the maple sirup industry.” Hanging galvanized buckets on metal spouts and pouring from the buckets by hand had been deemed “expensive.”

Instead, roll upon roll of heavy, malleable plastic tubing was laid out through the maple grove. A tubing system could be compared to the venous system in our own bodies, for it would take sap or deoxygenated blood from the furthest trees of the maple grove or the margins of our bodies, and deliver it to a central location to be converted into syrup or to re-oxygenate the blood. Starting from the area closest to the heart, thick, rigid mainlines—the *venae cavae*—snaked up draws, or followed contour lines around hill slopes. Lateral lines—the veins—meandered uphill from the mainlines to the base of the trees. Drop lines—the *venules*—collected sap from the maples. In 1965, the sap wasn’t yet being sucked from the trees, it was flowing down a natural pressure gradient from the

branches towards the roots and some of it was flowing out of the tree through a 7/16-inch metal spout inserted into a drilled hole of the same size.

The spout attached to the plastic dropline could be considered the capillary beds—the tiny tubes which collected the blood. The sap would be the blood itself. Where the metaphor plainly fails is that the tubing system was not cycling the sap as our bodies would cycle blood or the maple would cycle its sugars. Rather, it was transporting the blood of the tree—the sugars that had been stored since last summer in the roots—to a central sap house to be boiled, concentrated, sold, and put on pancakes.

At its introduction, the plastic tubing was not altogether alarming to sugarmakers in itself, besides the aesthetics of the tubing, and possibly the associated insertion of a germicidal pellet containing paraformaldehyde into the taphole before tapping in the spout. At the time, tubing lines were draped along the ground and were only laid out during the short sugaring season, so they could rest on top of the snow and be removed for cleaning at the end of the season. The tubing wasn't sucking any more sap out of the trees, it was simply saving the farmer from strapping on snowshoes and trudging to every single maple tree on every day of the season, and many farmers (sugarmakers were still mostly small scale farmers, making a living from their land) appreciated that. Others, Perrin included, missed the look, and perhaps the labor, of buckets hanging from trees and thought the new tubing system, “look[ed] like the intensive care-unit of some outdoor hospital.”

Perrin and Co. preferred to collect sap using the same method that Vermonters had used since 1800, with only slight modifications. Prior to 1800, a tappable maple tree would literally get the axe, swung right into its mid-trunk to make the sap flow from the

tree. A pine log hollowed out into a trough served as the bucket and when the trough was full it was dragged to the nearest kettle, one of many scattered strategically throughout the woods. Of course, the ax approach would kill the tree within about five years, but this was before logging had ransacked New England, and there were still a healthy quantity of maple trees.

Cedar buckets and reed spouts arrived at the beginning of the 19th century, but by the end of the century, the “metal revolution” had overtaken sugaring and tin buckets were ubiquitous. Metal spouts appeared too, and for the larger operations there were pipelines, heavy steel pipes with funnel shaped fittings spliced in at intervals, allowing buckets to be conveniently poured instead of sleighed or tractored down to the sugar house. However, even when Perrin was writing in 1972, many small operations (the 1965 *Producers Manual* defined a small operation, as 500 tapholes or less and did not think an operation of this size could yield a profitable net income) stuck to the horse and sled method of bucket collection.

Draft horses pulling sleds were not only romantic; they were practical. Tractors don't tire, but they also don't respond to “whoa!” either, or move steadily along by themselves while you empty buckets on either side of the road. Sleds don't get stuck as often as a tractor with an overzealous farmer at the wheel, and a horse and sled are much quieter during a time of year when you'd like to hear the faint gurgle of water melting and running under the snow and the steady plink of sap in your metal buckets.

The introduction of the vacuum pump not only brought noise to the sugaring operation, but tidy profits too. A vacuum hooked up to an airtight plastic tubing network could now suck sap from the trees. Perrin, however, was skeptical of the new technology:

You can let the sap come at its own pace, or—this is the latest wrinkle—you can install a vacuum pump down at the sugarhouse and suck it out whether the tree is in the mood or not. You are said to get about fifty percent more from each taphole that way. Some people also think it's as hard on the maples as whacking them with an axe but the system is too new for anyone to be sure yet.

The vacuum and the tubing have improved since then. Today, vacuum use will yield double the sap of a gravity tubing system. Almost all large-scale sugarers and many small scale sugarers have installed a vacuum that maintains up to twenty-eight inches of mercury ("Hg), and hums day and night from the first sap run to the last. The modern sugarers seem to have no qualms about sucking their trees dry of sap, encouraged by University researchers who have assured all of us there are no long-term adverse effects on sugar maples hooked up to a vacuum, only windfall sap flows.

But I share the same skepticism as my friends and family whose first question after I tell them about maples on vacuums and tubing is: "Doesn't that hurt the tree?"

Trees are sacred to people. They are sacred without people. Helen and Scott Nearing, authors of the insightful *Maple Sugar Book*, write that a tree, "is more than mere vegetation, more than mere firewood. It has a life of its own and is an end in itself. That mankind finds it useful is of secondary importance."

Many people can tell a story about a sacred tree. My sacred tree was an oak, a great broad California oak next to my grandparents' house. I'd sit in a smooth U-shaped nook in the branches and feel safe. I'd climb higher, brace my chest against one of the branches and stare down at the lobed leaves resting on the lawn green succulents below. It was timeless in that tree and a swing into its branches brought relief. I thought the tree knew more than I did about the basic functions of life: how to breathe, how to live from the soil and the sun, and how to nurture other life under the spread of its branches.

The Nearings astutely point out an obvious but often unacknowledged fact: the biological structure of all living organisms on earth is dependent on the chemical structures of sugar—carbon and hydrogen molecules stitched together—made by plants. Sugars made by plants and trees are necessary for all life.

As Robin Wall Kimmerer reminds us in her book *Braiding Sweetgrass*, her people, the Citizen Potawatomi Nation, once relied on the sap flows to provide them much needed sustenance during a time of year when food was scarce. They called the time of the sap run, the Maple Sugar Moon, and it followed just after the time called the Hunger Moon. Sap flow might no longer be necessary for our sustenance, but with or without us it fulfills an essential function in our forests. And if we decide to tap the tree, and distill the sap we collect into syrup, we should be grateful for the life-nurturing sucrose the tree is giving to us.

Removing more sugar from the maple, as the vacuum pump allows, could prove not to be detrimental to the trees in a researcher's dissertation, but that also supposes that we know more about how to live and flourish on this planet than the maple does. And I don't think we do.

I'd rather leave it up to the maple to decide, year by year, how much sugar it wants to give me and how much it wants to keep for its own growth and for gifts to the yellow-bellied sapsucker (considered a pest by Northeast sugarers though it is a native species). I'm a visitor to the woods who has already taken more than my share.

I tell my friends and family I'm wary of the sucking power of the vacuum. That's why I'll be tapping trees on the Devlins the same way Perrin did in 1972, with metal buckets and metal spouts. I'll take and use and thank the maples for what they give me.

Kimmerer reminds me that the gift of the maple is not free. I do not have to pay with money for the sap dripping from the spouts. But I do need to honor and nurture and give back in kind for this gift. It's a relationship that requires reciprocity.

At Emmons we'll use a vacuum and maintain miles of plastic tubing. It's the only way to make a profit from sugaring anymore. I already know I'll prefer collecting the metal buckets. It will make me stop and consider where the sap came from and where it is going.

I still climb trees, especially big, old ones. In Montana I climb the cottonwood. The sugar maples here are straight and slim, and even the old ones don't have limbs low enough to grab onto. I think they might prefer to be climbed by porcupines and the occasional black bear.

Cold Feet

January 30th

Hi: 9 Lo: -2

I'm angry at my toes. It's sunny and feels like its warmer than 9 degrees, but my toes feel like they've had the blood bludgeoned out of them, and all that's left is white, dead tissue. I'm an hour into my job at Emmons Forest and trying to concentrate on what Aaron is saying about tapping trees, and my cold toes are damn distracting.

I have insulated, Xtratuf rubber boots on that I bought for wearing on a crabbing boat in the Bering Sea. They withstood the icy sea sprays well, but they're not made to stand in the snow. My feet are damp. Either moisture's squirreled through seams or my feet were sweating early in the day. My toes won't thaw until I've peeled the damp socks off at home. The cold starts in at the toes then spreads up the foot like frost constricting a vine from the bottom up.

The snow is shallow, barely covering the criss-cross of fallen logs in the forest. Snowshoes would be cumbersome in these conditions, but later I'll wear them everyday, just to keep my feet out of the snow. Snow insulates, but I've never been convinced of its heat holding capacity. I've slept in snow caves, and shivered all night, imagining I was in an icy grave I'd dug for myself, not a cozy cocoon. It feels like there's snow packed around my toes, like you would pack ice around raw meat. It's the damage I'm doing that gets me angry. It'll be easier for my feet to get cold the next time.

We've started tapping on January 30th because we're not sure when the sap will start flowing—it could be a week or over a month—and three of us will need to tap 5,100

trees. We're on section B5c. Aaron showed me the thin black line on the map down in the yellow building this morning. B5c was right in the middle of a tangled mass of lines that looked like a mapped watershed.

All the sap lines merge together into three major rivers—the three black, two-inch mainlines that feed the sap house at the bottom of the hill. The sap house is the dam, where releasers—pumps with floats on them—pour the sap into 750-gallon stainless steel, half cylinder collection vats.

The major rivers of sap flow from A, B, and C sections. A is the lowest section and winds up to a low ridge on the eastern boundary of the property. It has the most birches, yellow and white, and a vigorous undergrowth of balsam firs. C is the highest section, climbing a hill up to the western boundary of the sugarbush. The top of C has the best view of the bald top of Algonquin across the valley. B section lies somewhere in the middle. It has the oldest trees. Some are one hundred years old and have broad, thick plates of bark.

In each section, major tributaries—inch and a half blue branch lines—pulse into the mainlines. The number of tributaries reflects the size of each river: A has 4, B has 7, and C has 11. Tributaries are fed by smaller brooks—spur lines—that are white or light blue, and an inch or a three-quarters inch thick depending on the number of trees on the line. These brooks are labeled by a lowercase letter in the order they split off from the tributaries from the bottom of the hill up. Some tributaries don't have any brooks coming off of them, some have 7 and end in g.

Each brook has dozens of trickling creeks—translucent 5/16ths inch lateral lines—flowing into them. Trickling creeks are fed by the trees themselves. Each creek

has one to six trees on it connected to the lateral line with a spout and a drop line. All the tubing in the watershed is strung tight between trees at knee to chest height, depending on the snow depth and the grade. Everything larger than a lateral line is attached to taut, ratcheted wire. Lateral lines attach to the last tree on their line and zigzag downhill through the woods to the maples they are collecting from, before T-ing into the spur line.

We won't even finish tapping the trees on one brook—B5c—on the first day. Aaron says it should take two weeks to tap it all. I still can't think past my feet—the cold's moved into the bone in the fleshy fore and is gnawing away, like a prodigious parasite burrowing towards the heart.

Though I looked at the map, I'm lost once we enter the woods. We drive a half-mile up a frozen road into the center of B section. As soon as we step into the woods, lateral lines seem to be coming and going from all directions. On the ground they remind me more of a jumble of roads than a watershed. We are always stepping up and over or ducking under the lines. Soon they become irritating to cross. Trickling creeks are never irritating to cross. The plastic tubing doesn't become part of the landscape: from the start it feels forced upon it.

My tool vest bulges with plastic tubing accessories, hand clippers, wire cutters, and a hammer. The first morning I lose two pairs of clippers in the snow. Once they've dropped, I can't possibly find them, even though I think I know exactly where they are.

The maples aren't planted in rows, but they are the only tree that has been allowed to grow to its full height. We trudge through rolling pillows of snow, short midday shadows, and tall maples. Though the undergrowth is carefully managed, there is a smattering of hardwood saplings that Aaron identifies.

There are beech, small trees with smooth grey bark and yellowed, dead leaves that hang on through the winter and give the breeze a shimmering sound like a distant tide pulling over pebbles. The thousands of beech whips in the woods love to slap you in the face. Beech is hard to get rid of, but it burns good, and Aaron says he'll have a lifetime supply of firewood from them.

There are black cherry here too, but none of the cherry have been allowed to grow to their full height. As grown trees they have a slender, curving shape like a crescent moon. Their bark is deep charcoal grey with plates that remind me of big jigsaw pieces.

There's one more tree I don't recognize because I've never seen it in tree form. Serviceberries are large bushes in Montana. They live close to rivers. Here, they must get the rain they need to mature into a trunk and branches.

Aaron stands in front of an old maple and explains how to tap it. He's stocky, and fit, with a baby face and brown hair. Pete's there too. He's Aaron's father-in-law and works for him. He's shorter and rounder than Aaron, with meaty jowls and hands and fingers that are red and wiggling. I can see his hands because they don't have any gloves on them. He didn't forget his gloves; he just didn't wear them.

Pete blows on his fingers after he grabs his drill from the snow. I envy his short veins coursing warm blood back to his appendages in a hurry. When I remove my hands from my gloves, my fingertips are white and cumbersome in seconds.

But it's my feet that continue to pull my attention. The cold has reached my heel. I'm standing on a frozen piece of sheet metal and my feet have become stuck to them permanently; I'm not sure I'll be able to peel my boots free at the end of the day. That thought makes me nauseous. I've never felt nauseous from cold before.

Aaron's talking now about how you shouldn't tap in the same column of wood as an old taphole, how you need to plant your feet firmly, and go straight in and out with the drill, how you should always get white shavings on the drill bit, not brown, and I'm nodding away, adding in a "got it" occasionally, and thinking of my damn feet encased in the snow and Pete's fingers without gloves, still red and wiggling.

I haven't figured what it is that draws me to jobs that make me uncomfortable. A crooked neck staring skyward for threatened seabirds in the Coast Mountains, an upset stomach bobbing the swells on a crabbing boat on the Bering Sea, a sore rear bouncing in the saddle across a ranch in Montana, and now cold feet tapping maple trees in the winter. It's got to do with some maxim I picked up once I left the cocoon of my suburban lifestyle that said, "do a job that requires your hands and your mind, something where you can see the fruits of your labor." It's the sacrifice that brings satisfaction.

I'm sacrificing my feet today; I'm hoping they'll forgive me for it. I'm glad the workday is short. I pry my boots off at the house and thaw my feet. I bend the white toes back and forth and watch each foot redden and race with blood on the heated floors.

My feet are pain free and warm in half an hour. Tomorrow, we're tapping again. I've got to wear some different boots.

Backwoods

February 1st

Hi: 26 Lo: 19

“That’s real backwoods up there,” Paige said when I told her I was going to a maple conference in Brushton, New York. She hadn’t heard of Brushton, but when I mentioned it was near Malone (pronounced Mae-Loan), she said it should be, “an interesting crowd.”

Brushton’s twenty miles from Canada, just above the northern boundary of the Adirondack Park. I tag along with Aaron, his colleague Jim who runs the McIntyre Forest near Ticonderoga, and Pete to the last maple conference before the sugaring season begins.

We leave early in a flat grey dawn, threatening snow, and drive north. We pass through Saranac Lake first, a town once dubbed the “Heart of the Adirondacks” in its heyday one hundred years ago, but now playing second fiddle to its neighbor, Lake Placid. Though it has the tired, rundown look of a town that’s been trying to prevent a decline for a hundred years, there are some recent signs of life. The Hotel Saranac, a classic, grand brick hotel, is being renovated and reopened with several million dollars from the state. Driving down main street I see Blue Moon Café, Nori’s Natural Foods, and the Blue Line Brewery.

The Waterhole’s on Main St. too, a narrow timber structure Mike opened as a bar in 1970. It’s the perfect building for a Hollywood bar brawl, complete with a rear second story deck above a patio for brawlers to be thrown from. I hear Saranac Lake was the

Adirondack center for debauchery in the 70s. The revelry would all culminate in the middle of winter at the Winter Carnival, a weeklong event in February where the town people emerged from their dark watering holes out onto the street. It's still a riotous affair today, with a frying pan toss for the women and a healthy quantity of beer for the men. They build a stately ice castle every year, with ice blocks cut from adjacent Lake Flower. Pete thinks the ice castle will be one to see this year; he heard the ice is four feet thick.

Dense stands of hardwoods line the road as we pass through Paul Smiths next, a town consisting of a college of the same name. Pete learned how to be a lumberjack at Paul Smiths thirty years ago.

The hardwoods thin north of Paul Smiths, replaced by frozen farm fields. I ask the three foresters in the car if fire threatens the forests here. They tell me you can stoke a burn pile here in the middle of August.

I tell them about the size of the fires in Montana—sparks that erupt into 10,000 acre blazes in a day. I tell them about all the fuel in the forest there—dead wood piled up from pine beetle kill and spruce budworm—great sections of forest near Helena where eighty percent of the standing trees are dead. I tell them about the century of fire suppression by the Forest Service in a dryland ecosystem adapted to fire. The Lodgepole pine are serotinous—their cones propagate with the heat of a low-intensity frequent fire and help to create a mixed age forest stand. A lot of Montana's forests are either old and waiting to burn or have already burned. Jim asks what we can do about the problem. I say, "If no one's in danger, just let it burn. The longer we wait, the bigger the blaze."

They nod and don't question me anymore. It feels good to play the expert, to talk from a place of knowing. Being the authority on a subject means knowing something that

others know little or nothing about. But being an *expert* extends beyond knowing, it means understanding the intricacies of your knowledge. It means being able to sense and observe all that's off-kilter in a western ecosystem starved of fire. I don't claim to be an expert on it, but I can speak about it from a place of authority. I know the landscape in Montana far better than I know the landscape here.

I don't imagine I'll ever spend enough time in the Adirondacks to become an expert on anything here. But if I spend days and weeks and months here over a lifetime, if I observe change, I could become an authority.

The maple conference is at the Brushton high school. Tile floors, long hallways, lockers. There are custard-filled donuts and coffee. The popular attire mimics what I'd see in Deer Lodge, Montana, the closest town to the ranch I worked on: Cabela hats, rainproof camo jackets, jeans. A volunteer high schooler stares at me for a long while before asking if I need directions to any of the talks. I wonder if I stick out that much.

I hear Jim talk about how to control beech in your sugarbush. If you just cut them down, each stump will send out a hundred shoots. It's best to cut them, then spray them with your all-purpose weed killer—Roundup.

Aaron talks about basic backyard sugaring. He reiterates the potential for maple production in New York—the millions of maples in the state that are untapped. While New York only taps less than half of one percent of their tappable maples, Quebec taps thirty-five percent of theirs. I try to imagine a third of the Canadian woods looking like a giant interconnected plastic spider web.

At the start of his talk, Aaron asks the crowd to introduce themselves, and share the size of their operation. One of the few clean-cut guys in the audience pipes up to say

he's got 2,000 taps on vacuum. But most mumble—in a low slow voice as if they were talking about a delinquent son of theirs—something like “200 taps on gravity but hoping to get up to 800 next year” or “‘bout 500.” They're almost embarrassed about the size of their sugaring operation, as if it reflected the quality of their syrup.

Aaron does mention in his talk that the economies of scale favor the bigger producer. If you're over 1,000 taps, a vacuum will pay for itself in two years. But you're going to need to invest at least \$4,000 up front, and I'm not sure many folks here have that money lying around.

In the last talk of the day, I hear why all these Brushton and Malone regular folks are paying twenty bucks and taking their Saturday to come to the maple conference. The local representative of the New York State Maple Producers speaks. She explains how a lot of people in the area got hooked on sugaring:

With folks out of work from the recession, they started looking for something, anything to do with their spare time. Most of them remember helping out their pa or grandpa at the sugarhouse. So they decided to give it a try, make some for the family, and get a tax break too.

Most folks in our chapter don't sugar for money. They're backyarders. They get some syrup for the family, and if they get big enough, they sell some on the side. Everyone starts small, but soon they're hooked.

I know how much more I love eating a tomato from my own garden than one from the farm stand. I can imagine it's the same with maple. How sweet the syrup must taste when it's sipped from a mug pulled straight off your evaporator.

There are no experts in the room. No one here seems to be trying to just make a buck. They're getting hooked on making a delectable sugar from their own property or a neighbor's property with their own two hands, some galvanized buckets, a homemade evaporator, and a cord or two of firewood. They're continuing in a sweet tradition.

Traditions form the bedrock of culture. Cultures need people to inherit them or they disappear. The men and women here are inheriting their culture. Thank goodness for the recession.

Skating

February 3rd

Hi: 32 Lo: 18

I rent a pair of hockey skates after work and Paige and I slide onto the scratched ice of Mirror Lake in the center of Lake Placid.

We skate hand in hand, tentative at first, like toddlers unsure of where the next step will go. As our strides lengthen, we turn playful. We chase each other; I sweep behind her and lift her from the ice in my squeeze. I've never had so much fun, every day, with one person in my life. There's no reason I shouldn't have asked her to marry me a year ago. But I haven't; something in me has kept waiting for the perfect set of conditions.

The cold temperatures and lack of snow create ideal skating conditions. The town, or some kind soul has cleared a track around the periphery of the lake. It's a long loop; it must be close to two miles around.

We skate one loop together. Once you're on it, the ice isn't as smooth as it appeared. There are long, aquamarine fissures where it expanded quick in the cold and split open when the water molecules could no longer hold their bond to each other. We cross the cracks with our skates parallel so we don't catch an edge in the grooves and splay onto the ice. At the end of a loop, Paige must go. She leaves for work in Vermont for three days.

I return to the ice and start skating in long strokes. At first, my arm swing and leg thrust are incongruous. Sometimes I swing my arm too long and throw myself off

balance, other times, I don't swing far enough or ride my skate for long enough, and slow myself down. After a lap, I find the push and glide—the arc of my arm swinging forward like a pendulum to counter the push of my thigh.

“Shhhhh....shhhhh....shhhhh....,” around the lake.

I pass a dad pushing his young daughter, then two older women skating slow and chatting. A middle-aged man skates onto the lake and makes it look effortless. I try to catch him, but every lap he moves incrementally ahead, and my back and thighs burn and tire. On a turn, I push through choppy ice, hit a soft spot, and sprawl chest first across the frozen water. I bounce back up, keep skating like it never happened, and stop trying to catch the man. I copy him instead, and notice that the push is not particularly fast or hard, it's a strong push into a smooth, balanced glide. It's easy to work at it too hard, to mistake effort for fluid, relaxed speed.

It's snowing lightly now, but when the clouds lift, the mountains appear as a backdrop of frosted popsicles behind the town. I can hear the bustle of Lake Placid on a Monday afternoon. I could skate right up to The Cottage for a hot toddy or hot chocolate, but I keep skating, I've found my rhythm.

“Shhhhh....shhhhh....shhhhh....” Once I've found my rhythm, it's easy to keep my cadence and I pass around and around the lake. I think about not catching a skate in one of the cracks in the ice. I think about how there isn't a much better way to spend a Monday afternoon than skating around a lake. It sure is better than cold toes. I wore red plastic boots that I bought for mountaineering to tap maple trees this morning, but my toes were still cold. Seems unavoidable if I want to work outside in the winter.

“Shhhh...shhhh...shhhh...” I skate for a long time. If I slow down, it becomes hard to skate at all, the rhythm changes too much. What a great idea: the skate. Taking a piece of metal (first a piece of bone 3000 years ago in Finland) and strapping it to the bottom of your shoe so you can move with quick grace across an otherwise slippery and dangerous surface. In Scandinavian countries, ice skating has become popular—long forays across frozen lake and river systems. Skaters will venture out onto the Baltic Sea for up to a hundred kilometers. What a thrill! Moving across a surface that was once froth and foam, but is now still, with all the fish and crabs still moving on the sea floor below you.

I’m new to the exploration of the winter element. It seems necessary to living through the short veiled days of this season. To be able to see the birch, white and bare, cast long shadows across the mounds of virgin snow; to pass across water effortlessly, and realize the miracle of it; to know that the snow and the ice blankets the life underneath it from the hard edge of cold.

I’m simply grateful there’s enough water here to freeze. I keep hearing from my Dad about the drought in California. It’s sunny and seventy degrees at the beginning of February. They’ve gone through three months of their rainy season without a drop. I read that California is tracking towards its worst drought in 500 years. Forty thousand people are imminently in danger of running out of water.

What alarms me is the assertion that droughts like these will become the new normal. Migrations will follow, north and west, or far to the north and east, where the water is plentiful. The only water I need to worry about here is the water freezing in the pipes.

“Shhhh....shhhh....shhhh...” It’s just the right temperature for skating. Warm enough that my lungs don’t hurt and ice hasn’t formed on my eyelashes but cold enough to keep me from sweating.

I pull off the ice, not because I’m tired, but because it’ll be getting dark soon and I should fill my belly. It’s nearly six, the buzz of the town has quieted and there’s just a few kids left playing pond hockey on the ice. They move in jerky sprints and sharp stops of spray. I don’t need to learn how to skate that way. I’m content moving long, and slow, and graceful like the Baltic skaters.

Tapping

February 4th

Hi: 24 Lo: 12

The sun is generous in its heat, so Pete and I tap maples all day long. Adi asserts her alpha femaleness over Becket and Tug. She steals Becket's stick or chases him, nipping at his heels through the woods. Paige feels bad for Adi; she thinks she lacks social skills. She either ignores dogs, or chases them to exhaustion. Perhaps she's spent so much of her life as a loner or around humans that she never learned how to approach dogs.

I can tell you, Adi, when interacting with your own species, the first step is just to introduce yourself politely. I'm learning myself how to proceed from there.

My hands and feet stay red and warm all day. For the first time, I enjoy tapping maples. I develop a tapping routine—it's not yet habitual, but it's becoming familiar. It follows as so:

Approach the tree. Look up at the canopy to make sure you are not tapping a dead tree.

Look up, down, and around the trunk for old tap holes—some will be obvious—recent holes—perfect circles with just a thin film of bark closing over the inside of the hole, others will be vestigial holes, half moons split two inches apart by the growing cambium.

Reach the lateral line tubing around the tree to see what area can be tapped without having to splice in new tubing.

Choose a bare patch of bark, at least one inch laterally and six inches above or below a previous taphole.

Level your feet.

Drill the hole, straight in and straight out, and clean the hole of drill shavings with the nearest available twig. The drill shavings should be white, not brown. Brown wood means you've hit a stained column of sapwood. The tree has been tapped before in this column. Don't put in the spout if the shavings are brown. It will cause a vacuum leak.

Fish a 5/16-inch plastic spout from your vest, place it in the hole, and tap it in with the hammer. The dexterity required to fish out the spout and place it in the hole may require removing your gloves, as will the final step.

Cut the flared tip off the lateral line with a pair of clippers, and shimmy the tubing onto the spout.

Walk to the next tree. Keep your head up.

The whole process should take two minutes. I can tap young maples that have an established tapping pattern in two minutes, but old trees with tapholes pockmarked all around their trunks take five minutes. I spend all the time on the first step, studying the bark for old holes. Pete moves through every maple in two minutes or less. He's tapped maples for four seasons.

I spend time making sure my hands stay in the gloves, or studying the textured maple bark—it has fascinating variation—some trees are smooth, and many shades of grey like a late afternoon cloudscape in the summer, and others have diving fissures between the plates of bark, and are blanched a pale, yellowed hue like the smoky haze that settles over Missoula in September.

We flip-flop past each other all morning on alternating spur lines. It's easy to see through this forest in the winter. All the firs, pines and non-maple hardwoods have been cut out. Aaron's following advice the Nearings espouse, removing everything that isn't a maple from the sugarbush, except for saplings, small branches, and rotten wood and using it for sugarwood, or as wood to heat the house. The Emmons evaporator runs on oil, so Aaron uses the wood in his new house just down the road. It's a three story yellow house built out of finished maple with a huge boiler to heat the floor.

All that remains in the forest is the next generation of maple saplings, and a proliferation of beech saplings, which have popped into the void created by the lack of undergrowth. It's nice to walk through a managed canopy of maples like this, spaced evenly so they don't crowd each other's crowns, but if you look closely, it's a desert for diversity (in truth, some deserts have more diversity.) It's a managed system disguised as a forest.

But I do enjoy the late afternoon sun playing wispy shadows across the pillows of snow. I'm used to having views of a larger landscape, and from the hill at Emmons, if it's clear like today, you can catch glimpses of the bald hump of Algonquin a few miles across the valley.

Pete and I talk little as we work. He tells me he was a tugboat captain for eleven years up and down the Atlantic seaboard. He worked for two weeks on and two weeks off. Later, he carved half pipes in Vermont, rumbling all night at the helm of a snow cat. He still snowboards at 65.

Now he's the resident forester at Emmons. He manages the forest, and hunts it too, I've already seen a few of his deer blinds—metal platforms tied to old snags twenty-five or thirty feet in the air with a ladder to them.

Pete's résumé strikes me as intriguing, not odd. I've worked on a crab boat in Alaska, a ranch in Montana and in the backcountry woods of Oregon and Idaho. We both keep moving, searching, learning—something. Pete lasted a decade at sea; I lasted a month. I haven't held any job for more than ten months.

Nothing has grabbed me; nothing has convinced me it's worth devoting any more months or years of my life to it.

In an office, I tired by noon. I forced out reports on water quality or climate change and wondered how many people would read them or use them. Would they provide any patch for the gaping holes that need fixing?

When I turned to science in the field, I found my data was managed by a higher authority that would never see a threatened seabird, the marbled murrelet, keer-keering above a lonely patch of old growth habitat in a forest that's been ripped to pieces, and patched—piecemeal—back together. I decided that authority tended to listen to science that was convenient and unproblematic. I decided that we do not need more science to tell us how we can save our planet. We know how to save our planet. It starts with compassion, what Wendell Berry aptly calls "affection."

I know affection means putting what's actually important in life first, so I try to put my family, community, and food first. My job comes second, but I want it to be affectionate as well; I want to know what my hard spent hours of work are doing.

So I turn to using my hands, shoveling one ounce of dirt at a time to fill an immeasurable hole, a chasm growing deeper by the day. It's small, but I can pick out the ounce, I can touch where my efforts landed. I work a ten or twelve-hour day, and know I worked that day.

The problem is, sometimes it feels like my shovel is throwing its dirt on top of the pile instead of in the hole. Syrup's not a necessary staple of the world. It is a better sugar to use than white cane sugar, imported from thousands of miles away. And it is a cultural inheritance, not of my place, but of a place I am trying to know.

So I move from job to job, and peddle a résumé that's long on experiences, but short on commitment. As the new one to the job, I tire of being the subordinate, of never knowing something well enough to be an expert in it, of learning new skills that appear useless in my next job.

Paul Erlich, the world-renowned biologist and author, has talked about the time he spent with the Inuit when he was younger. He says the men knew how to do all the women's tasks—sew a sealskin amauti to carry their newborn son, gather tubers from the arctic tundra—and the women could do all the men's tasks—harpoon a seal at a hole in the ice in the winter, or from the bow of a kayak in the summer. The Inuit men and women stuck to their traditional gendered tasks, but, if it became necessary, they could do their partner's task, and they could survive. Erlich's lesson was the Inuit were inheriting a majority of their society's culture.

Americans have not inherited their culture. Beginning with the agricultural revolution, and exponentially since the industrial revolution, we have become a culture of urbanized specialists. We depend on others, not in our local community, but around the

world, to provide our basic necessities. We soak up knowledge, but we eschew skills that, not long ago were considered fundamental for living. Most of us are now several generations removed from knowing how to provide—not through money, but by growing, herding, hunting, building and sewing—for ourselves and our families.

When I consider it, I've learned a great deal from my work. I've learned how to ride a horse, how to build a fence, how to cut through concrete with a saw, how to restore a streambed, how to build a table, how to tend a garden, how to rise and rest with the light of the day, how to live far from people, how to endure loss in a lonely place, how to wait for the dawn for a long dark hour, how to find pockets of beauty in a broken landscape, how to miss my love with my whole being, and now, how to tap a tree in the Adirondack Forest in February. Perhaps I am on the right track.

Part II

Roots

Snow

February 5th

Hi: 23 Lo: 12

I throw my skis in the truck before work, and when the snow starts coming heavier in the afternoon, and we stop our tapping for the day, I drive to the old Marcy Dam truck road to ski through the storm. I click into Mike's old yellow and black Epoke skis with three pin bindings. Good touring skis—long, light, but not featherweights, and a smooth glide if you get the wax right.

It's hard to get the wax right when it's snowing. It tends to stick, the flakes are spread out with all those facets, and they just adhere to the lard-like wax you've rubbed onto the middle of your ski. You need to keep moving, keep the friction and heat up enough on the base of your ski so they won't ball up as badly.

The snow has filled in any skier-made track by the time Adi and I arrive. The only fresh tracks are our own.

Three miles down the road at the dam—it's still called a dam even though it was blown out during the floods of Hurricane Irene and never rebuilt—I know I'm in the heart of the High Peaks, though they are hidden behind a veil of falling snow. Looking west, Phelps is on my left shoulder. Behind and above treeline to the south rounds Marcy—the highest peak in New York—5,344 feet. On the north side of the lake are the Wright Slides, great scars on the southern face of Wright Peak. West of Wright is the balding Algonquin Peak, the second highest in the state. Straight ahead is Avalanche Pass and from there you can descend to Avalanche Lake.

I wasn't convinced of the majesty of the Adirondack Mountains until I skied to Avalanche Lake a year ago. To get to the lake, you ski through a notch, and descend into a glacial bowl, rimmed by cliffs, with the granite slab of Mt. Colden rising like a sinking ship from the lake at forty-five degrees, not stopping until it reaches the summit two thousand feet above. This slab is called the trap dike. Paige climbed it when she was thirteen, with a rope wrapped around her waist, on her dad's hip belay.

The first mountains I knew were the High Sierra of California. They are great, rocky prominences soaring 10,000 feet above the Owens Valley. Those mountains were a shelter for me, a magnificent monastery. I told Paige all I knew about the High Sierra—the ochre alpenglow hitting the tops of the peaks long before it warms your skin, the mass of granite above and around you, cupping you in its palm, the air with a sweet, pure flavor I'd never tasted anywhere else. When I took her there, it pushed past the boundaries of what she thought mountains could be—she was enamored.

Now, it was her turn to share the splendor of the Adirondacks. Lower, yes—they are mountains that seldom rise above the treeline. But older too—much, much older. The metamorphic and igneous rocks forming the dome of the Adirondack are over a billion years old. They rose from deep in the continental crust over the last five million years.

They feel fabulously wild. It's easy to find lost places here. Paige and her dad once bushwhacked for hours into a mountain bog, Moss Pond, between Redfield and Skylight peaks. When they found it, the bog was crystalline clear, and they drank straight from the pool in slurping, grateful gulps.

When you climb the mountains here, you are not sheltered by the granite; you are buoyed by the thick oxygen of the trees—maple, black cherry, hophorn, hemlock, poplar,

and the white brilliance of the birch. As you climb higher, the forest turns to small balsam fir and white pine. And though you cannot see the slopes below you, you can feel the broad back of the mountain under you like the shell of a great, wise turtle. And sometimes you catch glimpses of other great turtles across the valley, or over the next ridge ahead of you, and you wonder what the sides of the shell look like, and might you find, when you arrive, the soft ivory of their underbelly?

The mountains here invite mystery. Hidden in the swell of the snowstorm, as they are now, they are covered in a cloak, wrapped in weather they have helped to shape, obscured—if only for a few hours—from the caustic lights of the world out beyond.

I'm there, under the cloak. It feels safe here. I know where I am.

A Cord

February 14th

Hi: 26 Lo: 15

I'm no woodsman. Right now I'm inclined to take back a year of my fancy education in exchange for knowing how to file a chainsaw and cut down a tree. *Backyard Sugarin'* tells me I'll need a cord of wood to boil down forty taps worth of sap. A true cord is eight feet long by four feet high by four feet wide packed tight and level. It's a hearty stack of wood.

I talked to Mike Devlin on the phone last night. He was fishing yesterday and caught some tasty redfish. He'll be back from Florida in two weeks. He told me *Backyard Sugarin'* could be referring to a face cord, a wood pile where the width is only sixteen inches—a standard length for burning logs in a wood stove. I'll get a full cord to be safe.

I'll need to cut wood for heating the house too. Mike didn't cut wood all summer or fall. I don't blame him, he's seventy-two and has been chopping firewood to heat his shelter from age ten. He said I should look for standing dead trees—anything on the ground would be rotten, “punk” he called it. And I should split the logs as soon as I could—they'd dry out quicker the thinner they were split. The hydraulic gasoline log splitter would make the splitting easy.

There were three chainsaws to choose from. Two Husquvarna's and one Stihl. I chose the Stihl. It was the smallest and had a simple plastic turning mechanism to tighten the chain.

All firewood is not made equal. I knew this intuitively, but whenever I'd cut logs (almost never) or chopped firewood (on occasion) there hadn't been much of a choice on what to use. In Montana, you burned Lodgepole pine, Douglas fir, or if you were lucky dry buckskin Larch.

Rick Bass writes about burning buckskin Larch in the Yaak Valley of Northwest Montana in winter. They had their bark burned off by the fires of 1910 and were grey, dry and rare. They gave off tremendous heat. Green larch won't burn, so those old buckskins were highly prized logs.

It might be obvious to a westerner, but there aren't any hardwoods to burn in the West. In the Adirondacks, if you burn White Pine, or even worse Balsam Fir, you either have no hardwoods on your property (which was rare), you're fond of the bursting crackle that softwoods make in the fireplace, or you just moved in from the West. The softwoods could be used for lumber if they got big enough, but for the most part they were only cut down if they were found in the sugarbush. They weren't worth the saw gas it took to cut them. I'm glad many softwoods remain. They give color to the landscape in the winter, and the smell of fir sap reminds me of home.

Mike told me to only cut hardwoods. He said there was a maple wedged between two firs just two hundred yards behind the house that he'd had his eye on since fall. *Backyard Sugarin'* tells me I can use softwoods for sugaring wood as long as I keep the evaporator loaded with logs so it burns hot.

Yesterday, it was cold, and I hadn't yet talked to Mike, and right next to the driveway was a birch, lying in the snow. It looked like a thick log, but when I cut it and hefted a log, I threw it down into the snow in disgust. It was light, "punky," worthless

wood, but now that I'd cut it up, I thought I should split it, and throw it on the blaze I'll build to boil my sap.

There were fir trees stacked like matchsticks by the driveway. They were tempting to cut and I took the saw to them. Halfway through the first tree, the saw slowed and ran out of gas. The chain was as dull as a butter knife, but I didn't know how to sharpen it properly, and it was getting dark and much colder (it dropped down to -21). I quit for the day.

Today, I'm going to cut up that big maple. I won't work myself up trying to sharpen the Stihl chain.

I switch to the hefty Husquvarna. It cuts the fifteen-inch maple like creamy butter.

God, I love cutting with a chainsaw. It's got muscle. When it cuts right, it cuts so easy. I can cut, and just keep cutting until the chain shudders to a halt, and my hands are rubbery and buzzing. My mind and eye focus with such intent on the whirl of that chain, and where it is in its cut through the log, and how long before I'll need to pull it free to keep it from pinching.

I know it's cheating; I know if I were a real woodsman I'd be using a crosscut saw. That's how Scott Nearing cut every single log out of his sugarbush in the 1950s.

I know the saw makes me feel like I have more muscle, more power than I do. That could be what's most dangerous about it. If I were cutting using my own sinews I'd have limits to my endurance, bounds to my strength. I wouldn't be able to cut down every tree in the forest. I'd be a human with tool, not a human controlling a machine.

The ease of this machine grabs you, and even though I don't like the smell of gasoline and the whine of a chainsaw in the hands of someone else in the woods, I like it when the growl of the saw is in my hands, and gasoline wafts from my shirt.

It's addicting, this machine. But it cuts the wood so easily, and it feels good to have a big stack of logs to carry out of the woods.

I decide to limit my use of this machine. I'll only cut downed logs, and standing dead trees with it. If I want to cut a live tree, which I don't need to do now, I'll use a crosscut, I'll put my sweat into it. If I hunt, I'll hunt with a bow, not a gun. It's like having no more than two drinks with dinner, any more and I'm not myself, I'm being swayed by the power of the sedative.

I huff the logs through a light fall of snow back to the driveway in the dark. I've cut them longer than sixteen inches and they're damn heavy, but I'm young and sure-footed. I've been feeling stronger lately, maybe it's all the skiing I've been doing, or maybe the cold, the winter, requires you to bring strength from your bones that you didn't know was there. I could've driven the tractor back there and loaded up the logs, but I'd like to know my own strength, know a machine didn't do all the work for me.

I still need to split them, but I must have half a cord of wood from an hour's worth of work today. The logs are piled in the snow next to the splitter.

I'll need to find a good place to dry the wood after it's split. In the basement, by the pellet stove could work. The Stihl saw still needs filing, but I need to take one step at a time.

I've got the itch to learn how to be a woodsman. But I'll need to learn to resist the power of those machines.

Nordic Skiing

February 16th

Hi: 28 Lo: 0

I ski forty kilometers on skate skis at Mt. Van Hoevenberg, a loop and a half of the Lake Placid Loppet course that I plan to race through twice in early March. Mt. Van Hoevenberg was the Olympic venue for Nordic skiing during the 1980 Olympics. They still hold big events, and even have a wide stadium, lined with colorful flags, where you can stage your own mock sprints for the finish line.

The snow's cold—it's 7 degrees out—and this makes the snow slow, like skiing across sandpaper. The course surprises me. It's the hilliest groomed track I've skied on. Steep hills, too.

I only took up racing on nordic skis after I met Paige five years ago. She made it look beautiful, and simple. I knew it wasn't. I cross-country skied in the Sierras growing up. My Dad had bad knees and wanted my sister and I to learn how to ski in a way that required little money and no lines. So we'd drive three hours one way, ski until twilight, then drive home.

As a teenager, I'd ski for half the day by myself on skate skis, in a motion reminiscent of ice skating, but with skinny skis and poles that came to your chin. Skate skiing technique looked harder, and it was harder to learn for the novice, but it was classic technique—the traditional straight ahead push and glide—that was the hardest to perfect.

The first time I saw Paige classic skiing, she was young—only 20—and fast and fluid and confident in her glide, like a dancer balancing on a toe beyond the moment you thought, surely they would falter and fall. I cheered loud for her and she smiled, and that smile, and her long graceful stride made me tumble further in love with her at a time when I needed to withdraw. We had stopped dating then, but I had driven an hour from my Seattle home in the hopes I might get a smile. I got a smile, a hug, and a few sweet words. And I saw skiing as her expression, an expression of free movement and poise, of strength and delicacy, of kick and glide. I'd have to wait four more months for her to decide she would love me again. During that time, I completed my first fifty-kilometer ski race.

I've always been an endurance athlete. At age ten I ran competitively and didn't stop until I graduated college. In college, I cycled competitively and didn't stop until three years out of college. Three years ago, I started skiing competitively, and still haven't stopped. It's always been how I've defined myself. It's always been how I've given myself a voice.

It's an addiction too. Just as the machine becomes an addiction, stretching the limits of your body can do the same. Paige and I have both felt it. I've been a runner, surrounded myself with runners, talked about running and runners and thought for most of the day about running. I've done the same with cycling, while fitting college in on the side.

A wonderful thing happened to Paige and me since we met each other: we found a full book of other ways to define ourselves besides as athletes. It has been a relief.

The addiction can creep in still, but I can sense its arrival now. I try to avoid it. I don't wear a watch when I ski. I don't schedule workouts. I don't feel like I've missed something if I skip a ski one day. I go for skis to make my body labor and my lungs huff because I love the feeling of moving my body, with my own muscle and will, through the landscape. It's an expression of my muscles, my tissues, my organs, my cells all working together in a motion they have learned so well they can do it without thinking. Usually it wakes me up, and if I sense it has become tiring, if it starts to be a chore, I stop.

I pass gaggles of skiers around Mt. Van Hoevenberg. It's a weekend and everyone's come from their cities and towns to slide across the snow. I keep stopping in the lodge to try to catch a glimpse on the TV of the premier Olympic nordic skiing event: the Men's 4 X 10 kilometer relay. They're showing hockey, then curling, then women's giant slalom. I finish my ski and the lodge closes. I drive downtown where I know they're projecting the Olympics live on an outdoor screen. It still gives me a thrill to watch endurance athletes at their highest levels.

Lake Placid is showing the Olympics live because they're an Olympic town through and through. Though it's been 34 years since they hosted, the town continues to grow a surprising number of elite athletes. There are seven local Olympians competing in Sochi, and the town is very proud of them.

As a veteran nordic skier, Paige has some connection to the entire Olympic nordic roster as well as the three local biathletes (a demanding sport combining the endurance and strength of nordic skiing, with the precision of target shooting). With a permanent population of only 2,500, Lake Placid probably has the highest number of Olympic athletes per capita in the country.

It's dusk and the temperature's dropped to near zero. The relay is on the screen in the middle of Main street. Downtown Lake Placid is bustling, but no one stops to watch the nordic skiing with me.

Mirror Lake, where I skated, is just in front of me. Behind and around me, stretching across the west side of the lakefront is the village of Lake Placid. It is mainly hotels, restaurants, and boutiques. Down the street you can see the imposing ORDA (Olympic Regional Development Authority) building on the hill—a cement and steel super-structure housing four ice rinks—with the Herb Brooks Arena (Miracle on Ice rink) in the center. Paige's grandpa, a Hall of Fame hockey coach, headed ORDA, and her mom booked big events for the venue after the Olympics were gone (she still laughs when recalling James Taylor's witty opening remark before playing in the rink: "Hi there. Cozy place, and warm.")

On the screen, the Swedes are in front and they're not going to be caught by the Russians behind them. They're skate skiing. Damn, they're strong and smooth. Sometimes I wish my body could do what theirs can—stretch to the furthest limits of human capacity. If I had devoted myself solely to cycling, I might've had a chance to become a professional cyclist. But there was more to life than cycling by then.

Besides, if I had to choose, I'd be a professional nordic skier. It's the only sport in which athletes regularly fall to the ground in exhaustion, and it's not for dramatic effect. When you're skiing that hard, so many muscles and cells in your body are working at such a high load that when they all release at once it's into a state of abandon. It feels fantastic, both that buzzing of activity and that full release into exhaustion. It is what keeps me racing: exploring the limits of my body's potential.

Thaw

February 21st

Hi: 39 Lo: 23

The sap flowed yesterday! The warmth arrived and I tapped without mittens all day. The first few hours in the morning were lavish, when the motion of tapping was not yet repetitive, and the muscles were fresh, and the mind was wandering and inquiring. As I cleared white shavings from a taphole, I saw clear liquid pooling from the back, trickling out from the sapwood. The surface tension of the sap was strong, and when it released, the tree dripped in steady measure. I put my tongue under the hole to try to taste this first sweetness of spring, but tasted more bark than liquid. Pete, Sara and I—Sara's the newest tapper on our team, she's from Saranac Lake and twenty seven—were all surprised the sap was flowing. We thought the trees would be frozen up solid and it would take a week of warm weather to thaw out their sap.

Despite the mountains of money that have been funneled into the science of sap flow, we continue to know very little about when the maples will flow and how much they will flow. When we ask Aaron when he thinks the sap will flow he tells us, "I don't know when the sap will flow until it starts flowing."

The trees, of course, know precisely when to begin sending up the sap from their roots to prepare for the opening of their buds. Botanist Robin Wall Kimmerer explains that every single bud is full of phytochromes—a light absorbing pigment that will only open when the days turn longer. This mid-February thaw is enough for me to hope for

spring, but the buds know not to break until after the tree has sent all the sap it needs up its trunk.

Today we didn't work because it was in the mid-30s and raining. It's slop outside and the snowfall we got a few weeks ago is disappearing fast. I get the tractor up and running to move the wood I've split into the garage, and then try to clear the half-mile driveway of slush, so when it freezes tonight, I won't slide down a skating rink on my way to work in the morning. The rain turns to wet snow while I'm clearing the driveway, and though I work into the dark, there's not a chance I'll be able to scrape the driveway clean without a snowplow. I park the truck at the bottom of the driveway.

The wind's howling this evening. Cold weather's blowing in next week. I don't think I'll see more sap for at least a week.

The Troll

February 26th

Hi: 13 Low: 4

The cold's returned with a vengeance. It doesn't want to let up. It hasn't edged far over ten degrees for three days of work, and every morning the wind whistles through the maple stand, dropping the wind chill below zero. We're not supposed to be tapping in this weather, but Pete's in charge of the tapping team, and dammed if he's going to call it off. The sap could start flowing regularly any week now, and we haven't tapped half the trees at Emmons.

I wear two down coats, and my plastic boots with gaiters and snowshoes, and fleece mittens with wool liner gloves, but that only holds off the cold for the first hour of work. After that, my toes become chunks of flesh I need to carry around for the rest of the day, and my fingertips turn white and lifeless, and I become resentful.

I resent the persistence of the cold. I should be able to outwit it, use that oversize brain of mine to ignore the nagging numbness in my fingers and toes, and keep tapping. Thinking about a warm fire and a heated floor waiting for me at home just makes it more agonizing.

I resent Pete too. I resent that he has us out here working. I resent how he waddles along twice as fast as me though he is twice as old. I thought at first he was like a badger, but now I think he's a troll. He's not only started to act like a troll; he's started to look like a troll. His snowshoes leave big, flat footprints. With his oversized raincoat on he looks rounder and the black beanie pulled over his head makes me focus on his face

which always seems to be grimacing and scowling as if nothing could possibly be good in the world.

He's a troll that doesn't need gloves to work. A troll that grumbles when he drops something in the snow and wails a "waaa...waaa...waaa" when he breaks a spout with his heavy, turnip-like hands.

It's silent in the forest because the cold has squelched any reason for conversation. The troll only talks when he points out a clearing where he shot a deer straight through the heart—such a clean shot it only staggered a hundred feet before dying—or discarded a pile of deer guts, or caught a bear chasing a raccoon up a tree on video.

We're high up on section C2c. I only know because I asked, and the troll responded as if it was obvious, as if I should know every inch of this maze of plastic lines he makes his home in.

The troll doesn't stop for lunch and neither does Sara because she's afraid of him. She's new on the job and thinks he runs things around here. You can make me tap trees in miserable weather, but I'm not going let someone—even a disgruntled old troll who's out to prove that he's tougher than the kids these days—dictate whether I eat or not. I stop, pull out my sandwich, and swallow it down. The peanut butter and jelly doesn't warm me up, and I resent the cold more, the way it won't stop burrowing, and I resent the troll more for not seeming to mind its burrowing one bit.

I don't show that I'm cold. I don't give the troll the immense satisfaction I think he'd feel from hearing me complain. I just keep working through a forest that doesn't change on this slate grey day. I'd probably tap an ash if there were a lateral line to it. I'm

not looking up to size up the trees. I watch my feet trudge through the crunchy snow from tree to tree. I start grumbling—swearing audibly just like the troll—when I drop a pair of clippers into the snow while I stoop as low as I can beneath the fiftieth or sixtieth, or hundredth plastic tubing line I’ve crossed under or stepped over today.

I know my work shouldn’t always be comfortable. I know I should embrace the discomfort, open my arms to it and say “yip-idy-day,” because it means my body’s feeling pain, and I’m alive and healthy enough to be working, and I can think about how beautiful this place is I’m working in, (look at the shimmer of the unblemished snow crystal on the tip of the maple sapling!) and I can be grateful for being born into this world as Nicholas Littman, and having the unparalleled opportunity to be tapping maple trees for a living. But instead, I’m thinking every minute about the searing pain I’ll feel when I get back home and thaw out my fingers and toes, and about the hot chocolate and microwaved leftover lasagna I’ll eat, and about how stupid, how inane it is, that we’re out here in this icebox, tapping maple trees for a living.

I know the troll can’t be comfortable under that hard exterior. He’s tougher than me, there’s no doubt about that. But I’m going to let him be tougher.

There are times to push through the pain. I’ve done that in my life. As Calvin’s dad from the comic Calvin and Hobbes would phrase it, I’ve done my share of “character” building. There are other times to use the rational part of this monstrous brain we have on our ape-like body.

I tell Aaron I’ve got a report I need to write on climate change in Montana, so I’ll only be showing up for three hours of work a day over the next four days instead of seven hours. The excuse is legitimate and Aaron thinks it’s too cold to tap anyways.

In my mind, I've outsmarted the troll. I won't let him freeze off my fingers and toes. The troll must think he's beaten me, he's made me cow down and has proven how indefatigable he is. I don't think Pete thinks he's beaten me; I think Pete is just doing his job, working his way through an unceasing cold that would test anyone's patience. But I know the troll cares and he's the one, besides the cold, who I want to say I've beaten.

Sapsicles

February 27th

Hi: 11 Lo: -2

When a wound opens in a maple tree—a branch breaks off in a heavy wind, a squirrel snaps a thin limb, or a sapsucker pecks a hole through the bark—and the temperature is just right, maple trees will grow sapsicles. The tree must be warm enough for the sap to flow and the air cold enough for the sap to freeze as it drips slowly from the tree. You're most likely to find them during a thaw at the beginning of the season, and if you break one off, you'll find it's like sucking on an icicle, except with a faint sweet taste.

I haven't seen any sapsicles yet. I learn about them at Aaron's "History of Maple Production in the U.S" talk at the Howard Johnson diner in town. Paige's 78-year-old aunt Connie and her husband Ben have invited me to the talk. It's a good thing I accept because I double my maple knowledge in one night.

I've already learned from the *Maple Sugar Book* that the Native Americans used to concentrate sap into syrup by freezing it instead of boiling it. They collected their sap in birch bark pails and left it out overnight in hollowed basswood logs. In the morning, they broke up the ice and skimmed it out of the container. Water molecules love to bond to each other, and as they form a solid matrix at their surface, they leave the denser sugar molecules below.

With successive freezing nights, you can concentrate the sap—what an RO does today—and shorten the boiling process. Letting the sap freeze might take time, but it's

exceptionally energy efficient. If you have the patience for it, the purity of the syrup is exquisite.

A Vermont Agricultural Report from 1890 contends, “If sap could be evaporated without heat the sugar would be white as snow...Freezing sap leaves the finest syrup ever tasted,”

I’d like a pinch of maple sugar as white as cane sugar. This season could be the time to try it out. If a winter ever predicted a spring, then we could see some bitter nights during the sugaring season.

At dinner, Connie and Ben tell me this is the coldest winter they can remember since they were kids in Lake Placid. Ben does remember colder times in the 1950s—when the temperature would park at twenty to thirty below for three weeks at a time—but he describes the cold and the town then as if it were somewhere else, an emptier place stuck in a vortex of cold.

The only place that’s been colder in New York than Lake Placid has been Saranac Lake, where the cold sits and stews because there are fewer outlets for it to escape. Just as Lake Placid is proud of their Olympic heritage, Saranac Lake loves to advertise itself as the coldest town in the continental United States.

Since I arrived, the temperature’s plunged to twenty below on seven nights in Lake Placid. Saranac Lake’s had it drop that low eighteen times. Sara lived outside of Saranac Lake last year and says her garden received a frost every month of the year. Little wonder the Iroquois Nations didn’t farm this area.

Aaron starts off his presentation with sapsicles. Then his talk turns to figures: New York taps one half of one percent of its tappable maples, but is home to the most

tappable maples of any state in the U.S., Vermont taps three percent of its tappable maples, and Quebec taps thirty-five percent of its tappable maples.

I've heard this fact before, but I still can't picture what the Quebec landscape looks like. When you walk through the forests there, can you walk far without hitting a tangle of tubing? I know the Quebecois are the leaders in maple technologies; all of our plastic tubing and fittings, as well as our reverse osmosis machine at Emmons, are manufactured by Lapierre in Quebec.

I've heard the subsidies and incentives for maple syrup in Quebec also help to support a healthy concentration of backyard sugarers. Perhaps it's mile after mile of buckets you see. That's what I'd like to imagine.

Aaron tells us the Adirondacks are chock full of sugar maples. When the lumbermen rumbled in, cut, and shipped all the choice trees at the end of the 19th century, they spared the maples—their sweet sap made them valuable as live trees. The maples multiplied around the region without competition from other species.

After the lumbermen left and the Adirondacks acquired the designation “forever wild,” sportsmen's groups gained popularity, and the once thriving deer population became a sparse deer population. In one of those cause and effect relationships that shape and shift our landscapes, maple saplings were allowed to grow because the deer no longer browsed them down. The maple-dominated forests remain today in upstate New York.

In the last few decades, those cause and effect relationships have begun to work against the sugar maples. Deer have multiplied, especially in warmer climates outside of the Adirondacks with a reduction in hunting pressure and a lack of top predators

following the extrication of wolves. Maple saplings are browsed on heavily. Beech saplings are proliferating.

Aaron doesn't give his climate change talk on this cold night, but I know a few of the facts already. Oaks and hickories could move into mountain valleys like this one. Aaron thinks it's more likely that beech and red maples (tappable but with a lower sugar content) will take the place of the drought-prone sugar maples, but either way the forest regime will shift with the changing climate. Vermont's climate may shift to that of Virginia by 2100. *Vermont's* climate may shift to that of *Virginia* by 2100!

I have no context for such a change in the climate. No one does. No species do. The sugar maples will survive. Their sap flow might even improve in Quebec. But though I have yet to see the brilliant palette of this place in fall, I can't imagine it clearly without the red and yellow of the sugar maples. The Adirondacks without sugar maples could be an Adirondacks without birch too, or fishers, or otters, or moose.

The only way I know how to explain the scale of change in the climate to someone else is by imagining a place as a person: me, you, your love, or your friend. It seems that people notice change, and mourn change more in people than in places.

People like places change. Usually they change at their own speed, they adapt to their shifting surroundings. When a change is forced, in a rapid, violent manner—a loved one vanishes in a flash from a person's life, or an injury irreparably debilitates their body—the immediate and lasting effect on that person's psyche can be traumatic. The person might appear outwardly ok, but inside they are scrambling, clawing to find reason, and trying to find explanations in a world that suddenly seems to have none. The person will never change back to what they were before; the change is permanent.

We can feel the anguish of this person; we are capable of empathy. But if this person becomes a place, a place with billions of living processes all working together to create a breathing, moving entity, of which we are only an infinitesimally small part, can we then show this place empathy? Can we imagine the anguish it must feel to have this change rent upon it in an expedient, relentless fashion that only we—the self-proclaimed creators and destroyers of the world—could create?

I do believe we are capable of this. I do believe we can love a place as deep or deeper than we love a person. But first we must know our place, and know it intimately. As I can know and love many people—each for their singular qualities—I can know and love many places. The Adirondacks are one place I will come to know and love. Western Montana is another. And the ocean, somewhere near the ocean, if I should be given the chance.

Aaron says maple sugaring is the fastest growing agricultural commodity in the U.S. It's doubled in the last five years. He credits technology. In New York he further credits the reduced property tax rates you can get from claiming a sugarbush as agricultural land. I'd like to think New York's citizens make syrup because it's a joy to collect nourishment that comes straight from the earth, not because they can get tax credits, or make a tidy profit with the newest technology. I choose to imagine sap as a gift, not a commodity.

A professor from Paul Smith College talks next about the history of agriculture in northern New York. During his summers, he runs a small farm near Saranac Lake.

He shows a map and tells us we will not find any oaks in the Adirondacks. Oaks are not native to anywhere in New York, but Native Americans would plant them if they were planning to settle an area. The Adirondacks were too forbidding for agriculture and settling, so there are no oaks. The Algonquin hunted and gathered in the area, but they starved too. They acquired the name Adirondack or “bark-eater” from their Mohawk rivals because they would eat the bark off trembling aspen to make it through the ceaseless winter.

He talks about how fields in this area will literally grow rocks. Glaciers covered the Adirondacks during the last ice age and deposited rocks as they retreated. Frost pushes rock up out of the ground, but tree roots keep them beneath the soil. When you clear a forest for farming, the field begins to grow rocks and does not stop until all the rocks have been grown. Rock walls are not for show; they are out of necessity, to make way for the plow.

He talks about the transition from communal farms in western and northern New York—farms that would produce all the daily needs of a community of farmers—to commodity farms—farms producing one good for sale to the regional consumer. In this area, the commodity was and still is milk. It was milk because milk has a shelf life, and although Ohio had better soil and a more favorable climate for growing hay and raising cows, milk shipped from Ohio would spoil. So the western and northern parts of New York became known for their dairies, Ohio began growing corn, and the farmers did not pass the skills of how to run a communal farm on to their children.

He passes through the green revolution in a slide, but mentions how remarkable it is that humans in the U.S. don't have to worry about going hungry. The Haber-Bosch

process of synthetically harnessing nitrogen made this possible. It also allowed us to store enough food to far exceed our carrying capacity on the earth, and led to our current state of abundant food but depleted and diminishing resources.

From there, it is another talk I know. Food has lost its individuality, it has lost its source, and it has lost the farmer who worked to produce it. Local food can't compete against the big commodity prices—the carrots from California and the peppers from Mexico. If I wanted to sell my syrup for part of my living, I couldn't compete with lower prices from Emmons, prices ultimately dictated by the *Fédération des producteurs acéricoles du Québec*. The *Federation of Quebec Maple Syrup Producers* or FPAQ regulates marketing and production of syrup for the province of Quebec and supplies 77% of the world's syrup supply.

As a consumer of food I have not grown myself, I have a choice of what food to buy. The professor talking raises beef and grows carrots and dates. He doesn't like the pressure of producing food for a CSA (Community Supported Agriculture), so he grows what he likes to grow and sells what he can.

The evening has provided two visions for the Adirondacks. I'd like to choose the one with hillside forests full of maples, and quaint, community farms tucked in the valleys. But I look at my plate, and I don't know that anyone knows where the steak and potatoes sitting there come from. And it's cold outside, bitter cold across the northern half of the United States, and it's making people think we might have a good amount of time yet to deal with the climate, and would warming in a place like this be such a bad thing anyways?

I'm starting to love the cold though—its lasting stillness. I'd like for it to return to this place every year. If I'm here in the summer, I'd like to buy some crunchy, sweet carrots from Saranac Lake. So I know I need to remind myself, and those who would listen to me, that there is still choice in this many millions-year-old relationship we've formed with our earth. And our choices always have ripples that lap to shore, hidden in the marsh reeds.

Subdividing

March 3rd

Hi: 16 Lo: -9

Mike and Laurie Devlin arrive in Lake Placid on the last day of February. They fly from 73 degrees in Fort Myers, Florida, to 3 degrees in the Adirondacks. Laurie won't leave the fireside, and the fire she's sitting in front of is heaped with three or four times more logs than I've ever burned in the hearth.

Paige and I have moved into a log cabin on the creek in the southeast corner of the Devlin's property. It's one-room with a sleeping loft. A deck overhangs the creek. The ice on the creek is five feet thick. There are holes—oblong spaces where the ice did not freeze as thick. The water must have been moving faster there. When you stand on the ice you can hear the trickle of water, distant, like someone shouting to you over the roar of a waterfall. When you look for the water, you cannot find it.

Mike built the cabin for \$10,000 in 1972. He was a bachelor here for four or five years, he's not sure. Thirty years later, he moved his family back to the cabin for a year, and they built the large house on the hill.

It's been too cold to work the last two days. I've been spending the days outside though, splitting, moving, and talking wood with Mike.

Mike's a small man, shorter than his two daughters and his wife. He has a healthy crop of dark brown hair, and a face that could be considered smug if you didn't know him. His original wit and genuine curiosity draw you to him. His heart beats twice the speed of a normal human heart. He's supposed to take it easy, but he can't. He's never

taken it easy in his life, and doesn't want to start now at 72. His body has slowed as his heart has sped up and it forces him to live at a slower pace.

Laurie and his daughters worry about him. I do too. I admire him. I'd like to learn as much as I can from him. I'd like him to know his grandkids.

Mike tells me everything I'd possibly need to know about cutting down a standing dead tree before he shows me how to do it. He doesn't spare details when he explains something he knows. I've learned to stand and listen. There are snippets of sage advice, but if I ingested it all, I'd have such a full mind—crammed with details—I wouldn't finish anything.

The house and its perimeter are full of half-finished projects. Anything you'd consider throwing away must first be considered for an alternate use. Old wooly carpet underlayment is cut into woolen insoles for boots. Ski tips are cut off and made into hangers. You always need to keep a good nose on the smell of the liquid pouring from the old syrup bottle you fetched from the basement. A relative once ate a bite of gasoline-soaked pancakes.

I respect Mike's frugality and effort towards reuse, but there comes a point when you need to be able to pass stuff along. Paige doesn't live easily in the clutter of her parent's house. She keeps our house in Montana simple, not austere, but free of stuff we don't need.

I'm learning more from Mike about wood. As I suspected, the birch I cut up is "punky," it will burn, but won't give off much heat. The balsam fir won't give much heat either. Maples will burn hotter. Cherry and hophorn will burn the hottest.

Mike tells me you should cut all your green wood in the summer or early fall when the leaves are still on the limbs. You should keep the leaves and branches on the logs for some time to draw the moisture out of the wood. We don't have a choice. We need wood now to heat the remaining days of winter.

Mike cuts down standing dead birch and maples along the driveway. He's sharpened the chain of the Stihl; it's lighter for him to handle. He feathers the trigger and stays nimble with the saw. He has quick reactions for his age.

I drag the trees behind the tractor up to the house. Mike goes inside. He needs to warm up after forty-five minutes outside in the eight-degree weather. He puts his feet in down booties on the heated floor, but an hour later his toes still aren't warm.

It's just been the last five years that the cold's started to burrow beneath his skin into his blood. His body's worn down from fighting it for so long; he can't circulate his hot blood fast enough to outpace the cold stealing in. It doesn't keep him from going outside. He just wears mittens the size of baseball gloves and crams foot warmers under the wool liners in his boots. With all that, he still can't stay out for more than an hour in this weather. Laurie won't allow it.

I use the Stihl to cut logs out of the trees, and rev up the splitter in the covered driveway. It chugs along, using hydraulics to splinter knots, fracturing thick logs into quarters.

At four, Mike meets Paige and me at the cabin and we ski upstream. Adi comes too. I'm worried about her falling into one of those big holes in the creek, but Mike says dogs have a good sense about ice, they know what's stable and what's not and this ice is plenty stable for all of us.

Mike shows us the edges of his property. A surveyor has marked it out with pink flags. There are no fences. Fences would be a bear to maintain with all the trees that come down every year, and they'd get in the way of the trails winding through the properties here. I don't often know whose property I'm on when I ski the trails around the Devlin's house. I haven't seen a "No Trespassing" sign, only "No Hunting." Mike and his neighbors freely share their land with the public.

At the pink flag, we ski up a steep hillside from the creek onto a thickly wooded bench. Mike imagines a house up here. He'd like to subdivide thirty-five acres into five or six lots. He was given rights to divide or keep the property intact when he paid \$8,300 for it in 1968.

The new house would be a hundred feet from the creek. He'd also want to require a fifty-foot buffer on the edge of each property line so the neighboring house would stand at least a hundred feet away.

He shows us the dense copse of firs peppered with maples he'd need to clear out to provide a platform and view for the house. It's hard for me to imagine this bench without the thick woods. The house on the hill was once woods too; you couldn't see the mountains. Mike pictured the house and the view there, cleared the trees, and made it so.

Mike's a practical steward of his land. He doesn't preserve land for intrinsic reasons, but he knows how to keep it healthy. He condemns the clearcutting of his neighbor's land not because it has created an open wound that will take decades to recover, but because he will end up with a plot of land full of beech whips. He tells me he was frustrated by the local "sustainable" loggers who came to open up the view for the house, and refused to cut down a few of the big old maples. As it is, they clear-cut a

football field sized landing area in front of the house. The view is stupendous, yes, but the house feels exposed like a raised scab above the skin.

We ski west to the next homesite, along an overgrown logging road Mike would use as a driveway. Mike tests our knowledge of trees. The one I can't name is the Black Cherry. It has charcoal grey plates of bark.

I ask Mike if he's considered a conservation easement on any of this land. He says he's considered it, but he'd like to subdivide it first.

In Montana, the Nature Conservancy has convinced ranchers along the Rocky Mountain Front—the place where the jagged Rockies fall into the smooth plains—to put their ranches under easement. They do it by talking with the ranchers, not demanding or convincing, but talking. They find through this conversation that the ranchers want the same thing for their ranch as the Nature Conservancy does—to steward the land and pass it, undamaged, on to future generations.

I'd like to have this conversation with Mike. There are few thirty-five acre parcels left within the boundaries of Lake Placid. I know he makes a good portion of his living developing and selling land, but it's also time for him to retire, and selling the cabin and a few other houses he owns in town would be enough for that. As much as he wants to take care of his girls, I don't think they'll need the money.

When my grandpa died in Tiburon, California, they had to sell the house and all the land around it. 100 Rolling Hills Road was the only house on the hill when my grandparents moved there with my dad and his younger siblings in 1963. It was a single story house, with many rooms, tall ceilings and long hallways—wonderful hallways for scurrying to and fro and off in games of hide and seek during the stretched afternoons of

my childhood. The house sat on a hill at the top of a hill and often floated above the fog that whisked into the bay at night. To the south when the fog cleared, you could see the splendid spires of San Francisco. But often we'd gaze to the northwest, where across Richardson Bay, lied the sleeping lady of the mountain—Tamalpais—who'd let her resplendent hair fall in deep green folds to the edges of the bay, and who was the recipient of the most precious words my grandpa ever spoke as he lay on his final bed of rest, and looked across the bay to the mountain: "Soon I will be one with all of this."

On this north side, the land dropped steeply onto six acres of oak, bay, scotch broom and poison oak. There was a creek at the bottom of the hill that always flowed from a year round spring. Even through the great drought of the late '70s, it flowed.

My grandpa put a path in down to the creek, and a bridge across it. He would walk the land often. It was always dark and cool and musty down there; you felt like you were in the earth, and the creek was an underground passageway you could follow up or down to get to the light.

You couldn't see any houses. It was a sanctuary away from the castles—the ugly, ostentatious structures oozing money from the stone archways, and decorative porticos—that had become the dominant feature on the scrub oak landscape. My grandpa had money; he made his living as a damn good lawyer in San Francisco. But he never showed his money off, and together we would steward the land, yanking and heaving at the tenacious taproot of the invasive scotch broom.

When my grandpa died, my grandma moved out of 100 Rolling Hills road, and his three sons sold the home, and then sold the five acres below with the approved plans for a 7,500 sq. ft house on it. My dad hated to see it happen; if it was his choice he'd

have kept it just how it was so his grandchildren could walk the dark, mottled path to the creek, waft in the pungent bay leaves, and sit outside the study in the palm of the great oak.

It wasn't his choice. The land sold to two different owners for a substantial sum of money for any land, anywhere. The long hallways of the 1950s house will someday soon be torn down and replaced by a castle. Once the land's sold, once it's been developed, it's hard to go back.

I know Paige will get a piece of land, and her sister will too. Then she'll have the choice of what she wants to do with it. If it were my choice, I'd leave it without a structure, or build a one-room cabin from wood on the land, without clearing any trees for a view.

None of it's my choice; it's my affection speaking. I should understand this place more before I suggest anything.

Right now, I'm skiing through a mature eastern, hardwood forest. You can hear the road in the distance, but there are no houses in sight. The coyote, fisher, deer and I all pass freely through this landscape. I know Mike loves to ski through the woods like this, or walk the trails during any season, just as my grandpa did on land 2,500 miles from here.

My rhetoric is sloppy and my facts aren't all in line, but there might not be much more time to protect this land. Life rumbles along far quicker than we want it to.

Quills

March 4th

Hi: 10 Lo: -9

We start work at eleven am to tap for a few hours during the warmest part of the day. I bring Adi; tapping becomes a solitary affair, and she keeps me company. She chases red squirrels up trees or follows a scent on the snow before bounding back to me, and following from tree to tree, wondering why I don't walk in a straight line.

We're on the C mainline, tapping short lateral lines funneling into it. I'm tapping on the south side of the line. Pete and Sara are on the north side and they've moved ahead of me.

We work over the crest of a hill onto a plateau. There are birch trees up here with separate tubing lines. We'll tap them and make birch syrup after maple season's finished.

I haven't seen Adi for half an hour. I catch up to Sara. She says she saw her running by on a scent ten minutes ago. I'm not worried; I can't think of anything dangerous to her in these woods. It's brushy along the mainline; the balsams haven't been cut out much up here.

We catch up to Pete and keep tapping. I'm still behind.

Adi runs by Pete, Pete yells to Sara, and Sara yells to me,

“Adi's been quilled.”

Adi doesn't stop until she reaches me. She's come to me for help.

I can hardly see her face—it's a pincushion, hundreds of white spines cover every square inch. She lays down and opens her mouth and I nearly gag—there are a

hundred more in there, stuck like daggers to her tongue and gums and she's pawing frantically, trying to get them out, trying to stop the pain. Every time she opens and closes her mouth, the quills push in to the soft pink gums. I need to help her.

I check her eyes. They're the only place on her face without quills. They're sedate and pleading. I pin her on her back in the snow to stop her from squirming, grab her in a headlock, pry open her mouth, and pull at one of the quills. But they're like sickles, thin and curved at the tips where they push into the soft gums, and they won't come out without breaking. Sara arrives and sees Adi clearly for the first time,

“Oh god, oh god, oh god, oh god. That's bad Nick. I've never seen a quillin' that bad. She's got to get to a vet.”

I'm worried now. I see blood in her mouth and I don't know if there are spines down her throat, working their way towards the lungs. She's limp. She can't stand. She's in shock. And every time she opens her mouth fear grabs me. Such pain.

I pick her up and start running. I try to run, but I can't, I have a backpack and vest and snowshoes on, and I sink in the snow nearly to my knees. I strip them all off, and start walking through the calf deep snow towards where I think the road is. I hoist her on my shoulder so she can't go at her mouth with her paws anymore. She's sixty-five pounds, heavier than I remember, and awkward to carry. I'm breathing hard and stumbling already. I tell Adi she's going to be alright, but I don't think she can hear me, not through that needling pain.

Pete yells somewhere far away to go up C4—it's the quickest way to the road—but I'm already past it. Sara's following me, trying to keep up. She drove her truck up the wood's road, and she's going to drive me to the vet.

It's only half a mile, but goddammit the snow is deep, and all these goddamn tubing lines that I have to go over or under. At every line, I put Adi down on the snow and watch as she paws and paws for those spines—like hundreds of long narrow teeth—pushing into her mouth. I heft her back on my shoulder. I'm sweating, I'm huffing, I'm slowing down, but I won't let her down.

I keep thinking: I can't have you die on me Adi. You're more than our dog, you're our companion, our baby. You depend on us. I'm responsible for you.

I've never had a living, breathing mammal die in my arms.

I held the hand of my grandpa when he died. His skin turned clammy so quick once his heat was gone.

I've had two people I loved depart the world in a flash. One was young and a best friend. The other was my dear aunt. They left two weeks apart, three falls ago. I didn't see them leave, nor would I have wanted to. I imagine them as I last saw them—warm and smiling. I don't think about if I could've saved them because I know I couldn't.

I can save Adi. She's on my shoulder, and if I get her to the vet fast enough she could be alright. I've never saved a life. For most of us, it's not something we do everyday.

The adrenalin's coursing, and I'm stumbling through the snow, tearing my way out of this web of lines, with the dog, limp and heavy, on my shoulder.

I reach the road. Sara's caught me, and we start jogging downhill to the truck. I hit a patch of ice under the snow, my legs whoosh from under me, and I sprawl flat on my back with Adi on top of me. She doesn't move, her eyes are half closed among all those spines, all that pain.

Sara picks her up, I climb in the truck, and she puts Adi on my lap. Sara starts in reverse down the road, and we're off in a drift almost right away. She's not going to get out.

I give Adi to Sara. We start walking down the road and I call Laurie to tell her I need to get to the vet. She says Mike is on his way.

At the sugarhouse, I jog down the road, holding Adi in front of me like I would carry a limp person. I'm still telling her she's going to be alright.

Mike roars up in his truck.

"Fuck, never seen anything like that," he says as I climb in with dog and spines.

I've never heard him swear like that before. I hold Adi tight to me, trying to keep her still. Mike says I have a spine near my eye. I pull it off, it's thin and stiff, ebony white with a black tip. Mike drives at sixty to the vet. They're ready for her there.

Dr. Flanagan is as relaxed as I am desperate. Adi will be fine. It's a severe quilling, but she's seen worse.

They sedate her. She keeps opening her mouth and pawing at the spines when I get up to leave. I kneel by the cage and keep a hand on her side until she sleeps.

I'm still hopped up on adrenaline and can't stop asking Dr. Flanagan questions. She'll have to stay overnight. They'll try to get all the spines they can, but some will be buried deep in the gums or the snout and will take weeks or months to work their way out. We'll need to watch for infection, but she's going to be ok.

I can call Paige in Vermont and tell her Adi's alive. She didn't die in my arms. I saved her. It wasn't heroic; it was natural, instinctual. When you see a living creature in pain, when you see it suffering or dying, you want to save it. You become desperate to

save that creature if you also love that creature, if a bond of affection has grown between you.

Later, I imagine having to carry a limp person out of the woods through the snow. It would be torture because I know I couldn't do it for long, even if every muscle in my body urged me to, and my adrenal glands were surging at their maximum output. I'd try; I'd put two hearts into trying. But sometimes you try and try and you still can't save someone. I was lucky today that I could.

The Fisher

March 6th

Hi: 17 Lo: -18

Pete thinks Adi might have killed the porcupine. It could've crawled back into its den and died of bite wounds. Pete found the den one-hundred yards from where Adi found me. It's a big hole beneath an upturned root ball. There are white quills scattered in the dirt in front of it. I don't get close; the porcupine could be uninjured and wary.

Pete tells me porcupines don't shoot quills. Adi had quills in her mouth because she tried to kill the porcupine.

I can't consider Adi a victim or an offender. You can't train a predatory instinct out of some dogs, they have canines because they are predators. When she was a stray, Adi had to use her canines. She hasn't forgotten how.

Porcupines have adapted an exceptional defense against predators, but it's not foolproof. Huskies, pittbulls, and rottweilers are dogs that will often try to kill them, but almost never succeed, and sometimes die themselves in the process. The dog's seasoned relative—the coyote—does pursue, and sometimes kill porcupines, but the most proficient porcupine hunter by far is the fisher.

Fishers are, pound for pound, one of the most ferocious predators on the North American continent, rivaled only by their smaller and bigger relatives: the weasel and the wolverine. Fishers kill porcupines by repeatedly biting their only unprotected flesh—their face. In gruesome fashion, once the fisher has bled the porcupine to death, it will eat its insides starting with the brain. There is violence in nature, but it's seldom senseless.

Fishers kill porcupines, or they starve through the winter. Sometimes the fisher is not quick enough and gets a mouth full of quills. It will not make it through the winter.

Humans are more violent than the fisher, and not as smart. We take more than we need. We waste life in stupendous quantities. And when we are slow and are quilled, we're saved by an insulating shield we've erected, protecting us from the injury.

Adi had a thousand quills in her mouth and on her face. She was saved by a human quality more powerful than all the violence we can muster: compassion—affection.

If we are going to muddle in our surrounding world we call nature, why can't we do it compassionately? Why can't we save lives more often than we destroy them? Why can't we only take the life we need, like the fisher, in a fair fight, to hold us over for the winter?

Part III

Trunk

Vacuum

March 11th

Hi: 34 Lo: 23

Aaron turned on the vacuum this morning. Most spur lines around the sugarbush have vacuum sensors on them. You can read the vacuum pressure and ambient temperature on the screen of a tablet in the yellow building.

A1, the closest line to the vacuum has a pressure of 8 inches of mercury (”Hg). Most lines register between -0.3 and 3.0 ”Hg. If the system was perfectly tight, the vacuum could hold a pressure of 28 ”Hg through 30 miles of tubing. The vacuum should be above 20 ”Hg. There are big leaks, and Aaron’s not happy about it.

Pete’s already on C2 looking for leaks when I arrive. Sara isn’t coming in today. I follow the clomp of Aaron’s snowshoes up from the sap house where the vacuum grumbles away. He’s following the mainline, looking for yawning breaks in it.

We huff onto the plateau and stomp north. We are close to the den. Pete has dubbed it “Porcupine Flats.”

I describe to Aaron where the porcupine lives, but he’s not listening, he needs to find those leaks. There are holes somewhere in these miles of tubing, and they should be big enough for us to hear them if we are close enough, hissing like propane from a tank. Then again, the vacuum might be too low to hear any hiss; the leaks could just be a sigh of air, a whisper, somewhere in these thirty miles of plastic.

We meet Pete on the bottom of C2. He hasn’t found any major leaks, but he tells Aaron there must be a big break in the mainline somewhere. Aaron says we should check

for leaks on every lateral line; he suspects there could be hundreds of small leaks, not just one big leak.

When you look for leaks, you're looking at air bubbles. If they're racing—as through a straw when you reach the bottom of a juice box and still want to slurp the last ounce of sweetness—then there are leaks somewhere on the line.

Every 5/16ths translucent lateral line feeds its sap into a spur line at a sealed plastic manifold. Lateral lines stay tight with the attachment of a clip, a foot or so up the lateral line from the manifold, that attaches to the taut wire of the spur line. The clip prevents direct stress on the manifold, which would cause a leak. The half-moon bend of the lateral line, between the manifold and the clip, is where you look for air bubbles.

There is always some air in the line. Tiny droplets of air in the sap push like the steady bubbles of a seafloor clam through the clear spout. The droplets pool at the bend, the low spot in the line. If there's no leak in the line, a bubble or two will sit still here, swaying back and forth to the hum of the vacuum. If there is a leak, then bubbles after will be racing into the mainline. Outside air is entering the system.

To find the leak, you follow the line uphill towards the first tree, running your bare hand along the frozen plastic, feeling for holes. Squirrels are the main culprits. The modern sugarer loathes squirrels. In the tradition of the Potawatomi, Robin Wall Kimmerer notes, it was the squirrels who first found maple sap by breaking a small limb of the tree. The Potawatomi celebrate the squirrels for sharing the gift of the maples with the people.

At the first tree you feel the drop line for holes. You check the spout. Large bubbles in the spout means the taphole was drilled into brown wood, or it wasn't drilled deep enough.

Aaron and I have begun leak checking up either side of C4 and we're noticing a lot of globular bubbles streaming from the spouts. He pulls a spout and notices the hole's shallow, only half an inch deep. He asks me if I know what's going on.

I tell him what I know. I know Sara and I have both been using what Pete affectionately calls Fancy Ass Drills (FADs). The FADs are a minorly modified DeWalt drill with heavy attachment—a fancy spring-loaded cylinder from which the drill bit emerges when it's pushed against a tree. It's supposed to drill straight and level to a depth of one inch.

The day we were tapping up on C11—I can't say what day it was, only it was cold, and there was sun, but it wasn't strong enough to break the cold, and I met Pete and Sara up along the highest point of the sugarbush—I used the drill Sara had been using. After a few trees I noticed the spring on the FAD wasn't depressing much; the drill bit wasn't drilling far enough into the tree. I asked Pete about it, and we looked it over and figured out the set screw on the drill bit wasn't set right. I fixed it and kept tapping. I tell all this to Aaron.

He clenches his jaw, raises the drill, and only the value of the \$750 FAD keeps him from slamming it against the maple between us.

“How long has this been fuckin' going on!”

I tell him I don't know. In a slip, I've incriminated my lone friend in the sugarbush, Sara. I backpedal, and tell him I don't think it's been happening long, we must

have switched drills before, and if the set screw had been set different I would have noticed.

Except I'm not sure I would. When we were tapping high on C section, it was during the haze of cold, when all my muscular, skeletal, and mental energy was focused on staying warm. I could've overlooked a faulty set screw.

Aaron's livid. He suspects there could be shallow tapholes throughout C-section. Now we're looking for hundreds of little leaks. He orders me to the farthest reaches of C section—C11 where the problem was first identified—to check every lateral line, and, if necessary, every tree for racing bubbles.

The leak-checking has begun. Pete says it won't end until the maple season ends.

When I finish C11, and don't find more than a few squirrel chews, I start on C10. I'm alone and the evenings are stretching longer. I stay out late, padding from line to line.

Aaron should be frustrated. He hired us to tap the trees and we've f'd it up, jeopardizing his sap yield. But I can't help but think, every single part of the system—the miles of tubing, the plastic fittings, the spouts, the vacuum, the reverse osmosis machine, the evaporator, and the tapping—is vulnerable to failure. The more complex the system becomes, the more time needs to be spent making sure the component parts are all working right together. If one part fails, the production of the system suffers, and there's little room for error during a season that could only last a few weeks.

I'm no Luddite; I'm grateful for many of the technologies I'm dependent upon. But I think those technologies can bear fault. They're not as fail-safe as we make them out to be. After all, humans made them.

A vacuum increases yield and reduces labor. But it also replaces many people's labor with technology and makes it acceptable for two men to run and promote a 5,000-tree operation. For the few people involved, it becomes neither labor free, stress free, nor cheap.

In 1860, the U.S. produced 1.6 million gallons of maple syrup and 40 million pounds of sugar (most syrup used to be boiled to sugar because it could keep and ship better) with a population of only 31.5 million. There wasn't tubing, or vacuums, or evaporators, or ROs. Most everyone who had a woodlot in the northeastern states spent some time sugaring in the spring to make their own sweetener. At the time, there was a firm resistance to buying the cheaper cane sugar from the southern states and the Caribbean because it was considered "slave sugar." There were no maple farms then, just farmers tapping maples in the spring.

Today, most people in New England don't tap the trees in their backyard. The maple syrup industry with farms as big as 120,000 taps, and the assistance of high yield technology distills 3.5 million gallons of syrup a year. Fewer participate in the tradition that was once part of spring ritual.

I think Aaron would like to bring this ritual back. I think he'd rather show as many people as he could how to run a small sugarbush rather than spend his time worrying about vacuum leaks and sap freezing in the lines of an operation that must always expand.

Right now, Aaron promotes maple production around the U.S., field tests the newest maple technologies, conducts forestry research, grows the Emmons Forest operation, lead tours, and meets production goals. He has a wife and a baby boy and is

building a house. He carries his phone with him when he goes for runs. No wonder he boils over.

I walk down off C10 at dusk. The moon is waxing. It's a hearty slice shy of full. The trees are delicate amber coral reaching into the deep-water sky.

We'll find the leaks. When we find them, we'll fix them. When the next link breaks in the system, we'll fix that. We don't collect sap; we repair components. Let's just hope the evaporator doesn't break in the middle of boiling season.

Tough

March 12th

Hi: 43 Lo: 23

Sara has frostbite on her toes. When she gets out of bed, she can hardly walk on her puffed, red feet. The pain's acute, like walking on a bed of nails.

For the last week her toes have ached when she's put her boots on every morning. She hasn't felt them during the day because they've been numb.

She's in the yellow building, filling in the worker's compensation form. The doctor's told her, if she wants to avoid more permanent damage, she should stay inside for the next two weeks. The damaged tissue's very prone to cold now. It will always be prone to cold. To keep her busy, Aaron's going to have her promote birch syrup around town.

A week ago, while tapping high on C-11, Sara told me about her work on the Appalachian Mountain Club's trail crew in the White Mountains of New Hampshire. Founded in 1919, the trail crew prides itself on being the toughest crew in the country. The first few weeks of each season sound akin to a marine boot camp or a fraternity rush.

The crew leaders always hire on more hands than they need and try to make you quit. Only the strongest stick with it.

For her first test of strength, Sara carried one hundred pounds of supplies strapped to a 1920s-era packboard—a wide wooden plank with two shoulder straps and nothing else—eight miles into a camp. She nearly quit right there, but she is a tough woman. It took her twelve hours, but when she finished, she was part of the crew. She

was part of a long line of men and women who worked harder than their bodies would let them, drank as hard as they worked when they were off, ate mountains of food, and maintained some of the roughest country in the East. By the end of a season, everyone on the crew had back problems, but nearly all signed on for another year in the trail fraternity.

The next year, as a trail crew leader, Sara doled out some of the punishing tasks and set the standard for hard work. Sara worked her body to its margins. She got sick, she got a bad cough, but she kept working. Sickness was just one more obstacle she could work through. She made it to the end of the season.

The day after the season finished she could barely breathe. She had fluid in her lungs—severe pneumonia. In the first week at the hospital, they weren't sure if she'd live. She was on an IV for six weeks.

She came back for a third year as a crew cook. The crew had been there for her in the hospital; their bond was formed through suffering.

I tell Sara I'm sorry about her feet. And I am sorry; I'm genuinely empathetic. I've seen her work, and she does more than a man or woman's share of work. But trying to do that share of work, with a testosterone-fueled culture raging around you, can bring anyone who has weakness—and that means everyone—to the breaking point. It's destructive. I've seen it take a life.

Alex, my dear friend, who I'd known from boyhood, was a compassionate man. Perhaps you wouldn't expect such an adjective in front of man who enlisted in the National Guard and served in Iraq. But the Alex I knew was contemplative. He knew

how to listen. He loved his family. He could be silly. He celebrated life. He searched for silence in the mountains.

He also felt a pull, and I still can't imagine it as his own pull, his own desire, but one of confusion, of not knowing which path he should take, but of wanting to protect and serve and sacrifice for the world he never took for granted, and stumbling on a path of strength, of a gun protecting his flag, and thinking if he were strong, if we were strong, all could be mended.

He sent photos from Iraq and I could hardly recognize him—body armor with desertscape camouflage over top, heavy tan boots, a helmet with a microphone, face-obscuring sunglasses, and a huge black, semi-automatic rifle clenched in his hands. He was with his army bros—young men just out of high school who loved to drink and party and curse when they weren't on duty and watch pornography and lift weights when they were. They were standing in a wind-blasted desert in front of their armored humvee.

I could see Alex under all that heavy gear that made him look so big. I could see them all. They were all just young men, and when you stripped everything away, they were small, so small, and frightened, because when they got back into that humvee, and rolled down the road, they might roll over an IED in ten minutes, and be torn apart by shrapnel, and they hadn't even had a chance to figure out what life was about, they hadn't had time in a life that had dictated that they should be tough, and army tough was the toughest of the tough, and dammit someone had to protect this country from those f'in terrorists, and the more of them we killed, the safer we'd be and the tougher we'd get.

I knew Alex knew something more than tough. He would meditate on the shores of high alpine lakes and we'd talk about the eight-fold path and enlightenment and he'd

think about where he might go when he died. There was a human behind all that armor, only five foot seven inches tall, who knew how to cry though he never would show it.

When you're in tough culture you only survive, you only prove your worth, by remaining tough. When Alex returned from Iraq, the Army paid for his college. He joined a fraternity.

I hated visiting him there. The house smelled like beer and piss. The boys there mainly drank, they drank kegs of beer everyday, but they wouldn't consider themselves alcoholics because they were in college and it was "just a phase." When they didn't drink, they invited freshman girls or even high school seniors over and got them drunk, and had sex with them, and didn't consider themselves rapists because the girls seemed to go along with it. I'd tell Alex to stop drinking so much. I'd try to get out to the mountains with him as much I could. But I was barely audible in this culture, a weak voice on the margins.

I thought he would grow out of it. He would start listening to his affection. We would laugh about it when he was older. But at the time, it was all consuming; he must have been trapped in it. I rarely saw the compassionate man I knew anymore. No one did.

On the third day of fall, three years ago, I got a call from my mom. I was in Barnes & Nobles in Anchorage, Alaska. Alex had used a handgun he kept in the closet of his frat room to shoot himself in the head. He was twenty-four.

My mom was told it was an accident, not a suicide. But I don't think it was an accident. Toughness doesn't tolerate weakness; it doesn't tolerate our beating, feeling, emotion-filled heart. It snuffs it out.

That's why I can't stand tough culture. That's why I feel empathy for Sara and her toes. If only we could all start listening to our toes instead of our heads, start hearing the rhythm of our pumping blood, the pulsing bump of our heart, and stop telling ourselves we need to be tough. It's already cost us too much.

Crows

March 17th

Hi: 12 Lo: -19

The arrival of the crows was a traditional sign the maple season was beginning. I heard crows two weeks ago in the woods. A whole murder of them cawing and cawing. The sound bounded across the pillows of snow. There was nothing to eat. The forest was frozen.

Sara called me tonight on the phone. We talked about her drama at Emmons before she asked me if I made it through the tapping season without any lasting damage to my appendages.

My fingertips are sensitive—the skin cells are on high alert to any change in temperature— but I haven't had any permanent numbing.

Sara's toes are still numb. She doesn't think we as a human species are meant to work in temperatures below zero. She says, even the Inuit would only go out for a few hours a day during the winter. I suspect if this is true it might be due to the scarcity of food available or the short daylight hours rather than a lack of hardiness. The Inuit have adapted to the cold over millennia; we have not.

I do agree with Sara though. No one should work a full day outside in below zero or even ten-degree weather if they can help it, especially if they're not used to it.

Last summer, I talked with a life-long logger from Lincoln, Montana, about climate change. The interview was in an old Larch tree, fifty feet off the ground, where he had built a house around the broad trunk.

Lincoln's a bitter cold place. Not far from town, to the north, you climb over Rogers Pass and descend onto the wide plains that stretch from the Rocky Mountains. On January 20th, 1954, at a gold mining camp near the Pass, the temperature read seventy degrees below zero. It's still the coldest temperature recorded in the continental U.S.

The logger told me they would miss twenty to thirty days a year of work because they couldn't work if it was colder than fifteen below zero. Today, they might miss a day or two of work a year or none at all. They work more in the winter, but the rains come earlier too, and make the roads impassable early in the spring.

Changes in the climate were obvious to him. Adaptation was necessary and achievable. He wasn't going to make any personal changes in his life, but he said if you made your livelihood off of the land, as a logger or rancher, you'd be forced to make changes to your practices. You'd adapt yourself to the warmth.

I could adapt to the cold if I had to.

If this cold kept on, if we slipped into a decade, a lifetime, an epoch of cold, I'd adjust, and my progeny would adjust over generations to the shift. I could work in below zero weather without the imminent threat of frostbite. But how do you adapt to a climate that's never stable? How do you adapt to cold or heat if one year it's twenty below in March, and the next year its fifty degrees in January?

I'm making myself feel the climate here. Long days in the raw air with only circulating blood and synthetic jackets to keep me warm. I'm trying to make my body adapt, to keep from insulating myself from the discomfort.

I tapped fifteen maples and hung fifteen buckets around the cabin and up by the Devlin's house today. I borrowed 5/16ths metal spouts and galvanized buckets from Emmons.

The spring equinox is in three days. The sap must be coming soon though the forest remains frozen

I haven't heard the crows in the forest lately. Perhaps they've turned south, or started digging with black talons into the hard crust.

Black Rooster

March 18th

Hi: 20 Lo: -19

Kirk Bassarab has been sick all spring. Aaron volunteered to tap his sugarbush for him. Aaron's a generous man but he has too much calling for his attention.

Aaron, Pete and I went down to Keene to tap most of the trees at the Bassarab's sugarbush—Black Rooster Maple—last week. I finished today. Paige wasn't in Vermont, so she came to help me. She thinks the plastic tubing strung between the maples looks like a giant IV, except the fluid is being sucked from the trees, rather than given to them.

The towns of Keene and Keene Valley border each other and sit in a valley nestled between mountains along route 73, fifteen miles south of Lake Placid. They are the “home of the High Peaks.” You can leave from downtown Keene Valley and hike along a spine of 46ers—dubbed the Great Range—culminating in Mt. Marcy.

I've had my eye on running the length of this ridge since I arrived. For me there's nothing better than waking early, packing light, and setting out at a slow but steady jog along an endless ridgeline. It becomes meditative. You focus on the placement of your feet, you listen to your breath coming in and out, and you absorb the changing light and pattern of the land dropping away below you. Something about it appeals more to me than climbing mountains with heaps of gear. Aesthetics? Lightness of being? It's movement by one of the most primal and natural ways we know as a species.

The snow is deep in the Great Range now. March has brought snow in the mountains. But in Keene, a thousand feet lower than Lake Placid, there's only a crust of white over autumn's brown mulch of leaves.

Black Rooster is steep sugarbush. We use mainlines to pull us up the hill. On the way down, snowshoes break the crust and skid out on the slick leaves.

It's a relief not to work alone. I'm tired of working alone. My thoughts hop onto a monorail and I can't derail them.

With Paige here, we talk about goats. She'd like to get goats someday. So would I.

She says this work, being in the elements all day, is exhausting. I know it's not as exhausting with her around.

Cloud Splitter

March 25th

Hi: 23 Lo: -15

Tahawus—Cloud Splitter. The great bald top rents a hole in the sky, it stirs weather, it defies habitation. The Algonquin looked at it from below, and called it Tahawus. When you pronounce it slowly—TA-HA-WUS—it sounds like a grand temple, a place of awe, or a supreme, powerful God, who would never be disturbed. When we call it Mt. Marcy (M-AA-CE), it becomes a mountain conquered, a wilderness subdued, the ordinary name of a governor who funded the first Adirondack survey.

Paige, Adi, and I are climbing up the Cloud Splitter today. We have broad skis with metal edges attached to heavy insulated boots. We have layer upon extra layer stowed in our packs. We have avalanche transceivers beeping close to our chests. We have probes and shovels to find and dig a person from deep cement-like snow. We have a bivy sack to spend the night if we must. We have a dog to keep us warm. We have a thermos full of butter tea. We have peanut butter and jelly sandwiches and a handful of surplus KIND bars from the Devlin's pantry. We have cell phones too, connecting us via satellite to Laurie Devlin's cell phone, awaiting any news we might want to give.

The mountain's easier to climb with everything we carry. It's easy to underestimate too.

The Cloud Splitter is wrapped in winter. The Devlins talked us out of an attempt a few days ago on a sunny, breezy, brisk, -20 windchill day. Today is warmer, but there's a chance of snow in the afternoon.

Mike Devlin warns us about clouds closing in over the summit—they can envelope you like the sucking tentacles of an octopus, and bring snow, blowing in every direction, surrounding you like that jet of inky blackness. You don't know where you came from, and you're not sure which way to go.

I've been on much bigger mountains than the Cloud Splitter. Volcanoes like Rainier, Shasta, and Hood. Granite spires like North and Middle Palisade. But I haven't climbed big mountains since Alex died.

Alex loved risk. He lived life to the brim for twenty-four years. He climbed Denali. He trekked to K2 base camp. He traveled to Columbia, to Pakistan, to Afghanistan, to western China, and India. He climbed Kilimanjaro, and traveled for weeks through Uganda, Rwanda, and to the Congo to see the mountain gorillas. He made friends everywhere he went. He went to smuggler's bazaars, smoked hash, and drank *tharra* (Indian moonshine).

At home in the Sierras, his mountain playground, he skied off most of the steep peaks we climbed, jumping and skidding down slick, freeze and thaw-hardened couloirs. He compiled a list of all the steep lines he would ski in the Sierras. Some were fifty degrees. Others required a rappel off a cliff to enter a narrow gully where the only way out was down.

He had another list of huge mountains to climb. K2 not Everest made the list. It was much harder to climb, and only a little bit lower. Mustagatah—in Western China—it not only sounded like a noble deity, it was over 7,000 meters tall, and you could ski up and down the mountain. I planned to go with him to Mustagatah. First Alex said, I'd need to improve my alpine skiing so I wouldn't fall into a crevasse.

A month after Alex died we celebrated his life. Hundreds from every sphere of his life came. I spoke about the place where I knew him as himself—in the mountains John Muir called “The Range of Light.” The Sierras were a place where Alex took deep breaths and let them settle. They were also a place where he flirted with the edge of life. I followed him there, but not without fear. There were places where I trembled, times I asked for help.

Two days after we celebrated Alex’s life, I boarded a plane for Alaska to finish a journey I had started. I thought Alex had taught me to live life as full as I could and I thought that meant I should perch on my own edge, stare at death, and learn not to fear it. I spent the month of November on the Bering Sea, as a biological observer aboard a commercial fishing boat, plying the frigid waters for red king crab.

The ocean showed its might, it lurched and rolled. We steamed through a storm to St. Paul Island 300 miles from the mainland. In the night we were surrounded by water, surging in and out of gaping troughs. Sometimes, a swell would slam the bow, the boat would shiver to a halt, alarms would sound in the cabin, and we would drift for an uncertain moment on the dark sea. On the sea, I lived alone though I was on the boat with seven crew members, a captain, and a hold full of live crab.

At sea I came to know that for me, living full didn’t mean clambering as close as I could to the edge, and balancing there to feel the addicting rush of adrenaline. It wasn’t that heady mixture of exhilaration, fear, and success I knew while climbing mountains that made life worthy and precious. It was the early morning jaunts along ridgelines, the summer afternoon paddle down the river, the evening harvest of the garden. But more

than familiar places, it was the people who joined me in this life, who I loved and who loved me in return, that gave purpose to my life.

My hours were not given to me to be spent in wild, selfish indulgence, and climbing mountains could become exactly that; they were given to me to be spent with precise intention and care, like the deliberate movement of a starfish across a bed of mussels.

I returned, relieved to be off the sea and flew directly to Walla Walla, Washington, to care for Paige. She had given me love and care after Alex died and she needed it in return now. The tissue around her spinal cord had swollen up from viral meningitis. I cared for her for nine days until she flew home.

The day Paige left I drove eight hundred miles to my Papa's home. He was dying of lung cancer. I visited the rambling house in Tiburon everyday for ten days until I watched the breath leave his body.

Alex's parents gave me his ice axes, but I've hardly used them. When I climb mountains, I climb away from the edge, where my feet land stable and comfortable. I take risk, but no more risk than I do climbing into a car. It would be silly to die in the mountains when there is so much to live for at home.

Every year I climb a peak in Montana called Little St. Joe on the day Alex died. I string prayer flags, and look south to the hidden places of the Bitterroot Mountains. I write, I chant, I celebrate, I hoot. It's an easy hike to the summit, but the place is worthy. He would approve.

Paige leads us up the slopes of the Cloud-Splitter. Near treeline, the great bald top of the mountain casts off the clouds around it. It's enormous. It looks like an ice bound peak of the arctic emerging from its den of weather for the first time in months.

When we leave the shelter of treetops bent over with ice, I enter a mountainscape I don't recognize.

The snow is blown and compacted into slabs. I imagine I'm riding the snowy top of a volcano as it emerges from the earth. I could ride it up and up, keep on skiing past the summit, and be swallowed by the clouds—swirling, forming, and disappearing—around us.

We're lucky to be sheltered from a whipping northwest wind until we reach the top. I think of this place in a blizzard, when the wind howls across the exposed top at 90 mph. It would be one of the most uninhabitable places on earth.

Paige has me come down from the top, loose myself from the clouds. Adi has her tail tucked. She doesn't think we're supposed to be up here. The clouds haven't closed around us yet. We can still see the ice-encrusted trees where we came from. We skitter down to the treeline. We look back at Tahawus. It's still swirling the clouds. We ski down—home.

Tahawus was my Mustagatah today, though it is not even 2,000 meters tall.

Small Fire

March 27th

Hi: 20 Lo: -7

The birch bark curls from the corner, curls inward as the flame rolls it up, and pops into a burst of hot flame. The wood in the compact, one-door stove is green. It will not burn, hot and flaming, like the birch bark. The logs are balsam fir and birch with the bark peeled off— both standing dead cut four days ago.

The great burst of yellow flame will not start the fire. The birch logs are too green, too full of moisture. The bark extinguishes as quick as it roars to life. The wood holds to a desperate blue glow for a few seconds, and then it is gone.

Green wood needs plenty of heat to burn. It needs a fire with small, dry kindling. It is hard to find dry wood at the end of winter.

The snow and the air are damp. The cold is damp. It flows through seams easier than a dry cold.

It's seven degrees below zero when I wake in the dark of morning. I try, for an hour to build a fire, puffing, delicately placing twigs, puffing more, spreading ash around the room. The green birch catches, I place another log, close the stove door, open the air intake. I climb the stairs to the loft. I look down and don't see a glow in the hearth, or hear a crackle. The fire is dead. I flop onto our mattress on the floor. I'm lucky the cabin has electric heat.

Maple Weekend (or Big Leak)

March 29th

Hi: 44 Lo: 30

It's the second maple weekend of the year—a showcase event for commercial maple syrup producers in New York State. The first maple weekend was a week ago, and it was snowing and gusting and bitter cold and looked more like January than the end of March. It's warmer today, but the trees are still frozen, and they're giving their drops reluctantly.

The sap's already flowing outside the Adirondacks. A maker of compact evaporators—high efficiency, wood-fired evaporators—has brought his product and a few barrels of sap he collected from Syracuse. He's set up outside when I arrive at eight, and has just poured cold syrup into the back pan.

I'm there before the festivities and tours begin. Aaron's called in reinforcement—his colleague, Jim, from the McIntyre forest—to try to improve our vacuum pressure. The pressure on A and B sections has climbed marginally, but most of C section remains at under 1”Hg.

Jim and I gear up and try to drive up the hill, but we only spin on the sloppy road. We slap on snowshoes and slog from the sap house. Pete's up in the forest already.

Aaron's still convinced we're looking for hundreds of small leaks. We test his theory. We move up C4, pulling out every spout, checking the depth of the taphole with a twig, and drilling it deeper if it's not one-inch deep before tapping the spout back in.

It takes all morning. The snow sticks like wet cement to our snowshoes. Each foot must weigh twenty pounds. I take the snowshoes off and sink to my knees. I put the snowshoes back on. Jim's far ahead of me.

Jim checks the pressure on his smartphone at the end of the line. It hasn't ticked a nudge. He thinks there must be a big leak somewhere on the main line, nothing else could suck the vacuum clean out.

We decide to check the C mainline for leaks again, though it's been checked and rechecked by everyone working in the forest the past couple weeks. We start at the top—near C11—and walk on either side of the line. We keep our hands and eyes on the line. A big leak may not make a sound.

We check every coupling. We duck under spur lines, push through balsams, and stay tight to the line.

Between C2 and C1, on a long curve, we see it. A coupling has pulled loose and the line is gulping air. It sounds like the distant suck of water down a drain. We could've walked past it a dozen times. We loosen some wires, muscle it into place, and tighten down the hose clamps.

Jim calls Aaron to tell him the good news. Aaron says the vacuum's already up to 8"Hg in C section, and it's rising.

We trudge to the yellow building. It's 5:30 and everyone's gone except for the fabricator of the evaporators from Syracuse tending his boiling syrup.

He says there were over a hundred people in and out of here today. Aaron must be happy about that.

The syrup's not finished yet, but he gives me a taste.

It tastes of sunshine and snow, of warmth emerging from cold, of flavor erupting from labor. I hold it on the tip of my tongue and let it bathe the pink creases of my mouth. It's indulgent. It's pure. It's blossoming. This is why we tap and trudge and wait. This is what John Burroughs called the, "the sweet goodbye of winter."

The man ladles out more syrup. He says in Syracuse it's supposed to warm above freezing at night by mid-week. The maple season might be all of four days.

"But that's Mother Nature," he says.

How precious this sweet elixir is, if it's only given out for four days. It's like a night-blooming cereus, the cactus growing in the Sonoran desert which only flowers for a single night a year. At dawn it withers away.

How brilliant the flower becomes for its rarity! How avaricious we become in trying to hold on to it for longer, take a picture, or even pluck it, and place it as gently as we can in a vase of water, and hope that it will last through the bright morning, just for us.

This scarcity makes me want to tap more trees. I need to grab the steady drip of sap before it's gone. I've tapped twenty trees, but I want forty. I want enough to last me a year. I want that creation of winter and spring, that participle of the seasons to linger. I want to share it with everyone I know. I want to share it with everyone who will come after me.

Ethan Greenwood wrote in 1832 in the *New England Farmer* that he never hesitated in his conviction to plant four hundred maples on his property. Four hundred maples he would never see produce sap:

While ever ready to depart, the lover of beautiful trees should act as if he expected to live a thousand years. Although I shall not live to see them grown very large, yet

someone else will, and I hope that whoever may successively occupy the same place hereafter, will not only see them of large size, but have taste and feeling to enjoy their beauty and preserve their usefulness.

What if, long after you were gone, you were simply known as the “tree-planter,” the one who lined your bedraggled roadsides with sweet, towering maples, the one who committed to beauty long after your human time had ended. Somewhere in New England, a sugarmaker has inherited Greenwood’s commitment to beauty, his maples have seeded more maples, and there may be a grove, and even if the season is short, they will have a sweet bounty of syrup.

Sweet Water

April 1st

Hi: 35 Lo: 20

The sap is dripping, in steady measure, into my buckets. I should be overjoyed. If the warmth stays, I'll have enough to boil down by the end of the week.

I collect sap from galvanized metal buckets and plastic bags when I arrive home from leak-checking at Emmons. Plastic bags are the newest technology in home maple collection. You use them with a plastic spout. You cut a corner of the bag off, and when you collect, you pour the sap straight from the bag. You don't have to take a bucket off the spout. You don't have to worry about lead or fermentation if the sap sits out in the sun and reacts with the metal (sap will still ferment over a few days in the bag.) You don't need to clean out the bags at the end of the season if you don't want to—they're cheap enough to throw away. Bags may yield more sap too, though I'm not sure why. I'm testing this last theory out for Aaron, which is why I have half buckets, half bags hanging from the trees.

All in all the bags outperform the buckets, except they look like plastic bags hung on trees. Roadside buckets mean spring, they mean horse-drawn sleighs, they mean sugar on snow, they mean fresh gulps of sweet maple water. Plastic bags look like litter on a tree. When they're empty they flap and flop like a tired flag. When they're full they look like an overstuffed bladder ready to burst. There is an advantage there too—you can see them when they're full, and you don't have to waste your precious energy tromping

through the snow to empty an empty bucket. The bags I use I hide in the trees. The buckets hang on trees by the driveway.

I collect five gallons of sap in the dark. I pour it in a plastic 50-gallon drum placed on a pallet outside the sugar house. I need to fill most of the drum before I start a boil.

I want to tap ten more trees tonight. I want to reread how to go about boiling properly and make sure I have all the tools for it. I want to finish the report on climate change in the Crown of the Continent that I've been working on for months.

I tell myself there's time for it all. Then I tell myself I'm not efficient with the time I have and I'm slow at whatever I do. I could be like Aaron and try to do it all at once, and have it all be perfect, and have fits over the vacuum pressure when it's at 21"Hg instead of 22"Hg. Then again, I wouldn't be able to manage that many parts in my life, I'd lose control of one part, then another, and it would all meltdown.

But don't functioning adults do it all at once and do it well?

Paige came in from a walk with Adi a few nights ago and told me I was depressed. She says my depression is spilling over and making her depressed. She says I can stop trying to be an expert, stop thinking that I need to know how to do everything perfect the first time, stop needing to find a career, and stop thinking I'm incompetent. I can start congratulating myself on what I am doing, and start loving my life.

Of course she's right. But I can't shake that feeling of everything converging at once, of it all coming to a head as the sap begins to flow. I should do more tonight but I'm exhausted. I shouldn't be exhausted—we walked like waifs across a hard crust today—it was easy leak-checking. But I was tired; I've been tired for a week.

I save two glasses worth of sweet water to bring back to the cabin. It will be a satisfying drink with dinner. I've waited a long time for this movement of sap through the sugarwood. The buds have begun calling for sugar so they can open. The roots are sending it, and I am drinking what they send for nourishment, in the hopes that I too will be renewed.

Evaporator

April 5th

Hi: 44 Lo: 22

I sleep in past ten. I can't remember the last time I let my body rest for that long. I wander to the sugar shack a four-minute walk past the pond Mike made where the spring peepers—tiny frogs with big voices—will begin their chorus soon. I'd like to clean the evaporator pan

Chuck is there and boiling sap. Chuck works odd jobs for Mike and asked to tap his trees last year. He's red in the face—the cheery red of an elf—has bad knees, and loves sitting right outside the sugar shack, just sitting and waiting for his sap to boil, sometimes listening to people talking on the radio, or shoving the planks of a pallet he's cut up into the firebox of the evaporator, but mostly sitting on a run down chair, and absorbing the generous warm of the sun, letting his cheeks turn as shiny as the polished skin of an apple.

Chuck is tapping the main grove of maples behind the sugar shack. He has over a hundred trees on a limp tubing system with a worn out vacuum pump he has to prime every ten minutes to keep the pressure up.

I looked at the stainless steel evaporator pans the other day, and couldn't find a speck of silver on them. They were layered with burned sugars and rust. Mike thought the syrup Chuck made last year tasted dirty. I thought it tasted watery. Aaron would squirm if he saw me sugaring on these pans.

I ask Chuck about cleaning the pans. He says he doesn't touch the pans because he's afraid if he pulled them off he might break them. There's already a leak in the front pan that clogs with sugar as the fire burns below. In places, the steel has thinned to a fragile film and the weld joints are starting to crack.

Chuck has the fire fed. The pans are billowing steam out of the cupola, spreading sweet moisture on the air.

I ask Chuck to show me the particulars of the evaporator—how it works and how to make the best batch of maple syrup I can from it.

We step inside, out of a cramped area you might call a covered porch that we use as a wood stockpile. One of the two doors rises to chest height to let excess moisture and heat escape. The inside's unfinished—the studs are exposed and the underside of the corrugated metal roof is above. If you finished this shack you'd want to use plywood siding, Sheetrock would saturate and sag and slump within a week if you were boiling in here.

The floor is dirt. If Chuck or I were selling our syrup, the New York Department of Agriculture and Markets would want our floor to be concrete or some other washable surface. But dirt suits us just fine; it absorbs spills and you never need to clean it.

The evaporator is a two-by-six foot Leader—the standard brand for wood and oil-fired evaporators. The firebox below is a rusted-out steel drum pocked with holes we try to patch with aluminum foil. There's a few feet on either side of the evaporator to place a chair, and a rickety square table in the front corner with a package of Dunkin' Donuts coffee, and some plastic spoons Chuck uses for sampling his syrup.

There are two evaporator pans of equal length. The back pan has flues in the middle—tongues filled with sap that dip a foot into the firebox and maximize the surface area being boiled. The front pan is the finishing pan, it's flat, and has a spout on either side to pour off the syrup.

Each pan separates into four lengthwise sections—partitioned hallways with doorways at the ends. Chuck says he starts the sap in the front left part of the back pan. When he pours a five-gallon bucket in there, the sap fills the section and finds the gap in the partition at the back of the pan. It falls into the flues as it moves down the section, towards the front of the pan. At the opposite end, it reaches another hallway. The sap mazes through the back pan until it's full, then moves to the front pan through a two-inch pipe. It sloshes back and forth through the front pan until it stops at the spout in the back left of the front pan, only a few inches from where it started. Then the sap settles into equilibrium.

If you're nearby, with a full bucket of sap ready, the sap should be an inch deep to make sure you don't burn the pan. If you're going to leave for a bit, and you've stoked down the fire, you should have two inches in both pans to make sure they don't run dry. To fill the pans two inches takes twenty gallons of sap.

There's no downhill grade to the system. As the sugar concentrates, it creates gradients of sap somewhere between 2% and 66.9%. The sap remains dilute and fairly clear where you add it. As it heats and boils the water billows off in thick steam. It's a heady fog. It's steaming now and when I stick my face into the fog, my sinuses flush right out. I back away to avoid dripping mucus into the pan.

The sap has concentrated enough by the time it reaches the front pan that it turns a murky brown. From here it gradates further until it's deep ochre brown—the color of the insides of the burned out Cedar trees I've seen in the Great Burn in Idaho. The trees that survived the legendary firestorm of 1910.

All four sections of the front pans acquire a distinct hue, and they all deepen as you boil on.

You can tell when the syrup's ready to be drawn off in the front pan by using a hydrometer to measure the density. If you don't have a hydrometer, and *Backyard Sugarin'* says they're unnecessary, you can use a simple candy thermometer. The finished syrup should be seven degrees above the boiling temperature of water. Using the thermometer I bought at Price Chopper, at this elevation the boiling temperature of water is 210 degrees.

You can also just pull the syrup off when it tastes good. That's what Chuck does. He pulls a pot full of steaming syrup when it's nearly done and finishes it on the stove. Aaron recommends that too: you finish it inside where you have control over the heat source.

It's a simple process of mostly patience and attention. But there's more to it at Emmons.

Two days ago as Sara and I walked down from the sugarbush after a day full of leak checking, we could see a plume of steam floating above the trees, coming from the sugar house. The evening was still and from far up on the hill, I could place the sugarhouse where I wanted it to be, far off in the woods, away from any roads, with a yellow glow of lanterns coming from the frosted windows. Inside there would be cherry,

maple, and birch logs being thrown onto a big, hungry fire, and men and women telling stories of sugar seasons past, dipping mugs in the piping syrup, and pouring bucket upon bucket of sap into the wide pan.

Nostalgia does not linger long. Halfway down the hill, the growl of the vacuum enters our senses—a mechanical droning that wouldn't be found far in the woods. We walk past the drone of the vacuum in the sap house and cross Bear Cub Lane—not a wide road, but paved and plowed. We enter the sugarhouse. It sounds as if you've entered a furnace room, not a rattling, sooty furnace room but a clean, ordered, gas furnace room with digital controls and the dull roar of combustion and forced air contained somewhere in the machine.

This evaporator runs on oil. Oil and wood evaporators today are highly efficient. In 1840 it would take a full cord of wood to boil down a gallon of syrup. One hundred years later the Nearings could make fifteen to twenty-five gallons of syrup from one cord. Today, with a pass through the RO, one cord of wood can make up to 80 gallons of syrup.

The evaporator is a behemoth. There are three front pans and at least three back pans. They're all steaming but there's a big hood to catch the moisture and recycle it as heat through the system. It's called a Steam-Away.

Aaron is listening to online radio. He's set a digital keypad to siphon syrup from the front pan to an open barrel at precisely 117.2 degrees. He takes samples often and uses the hydrometer to make sure the sugar content is at least 66 percent.

The syrup's a light amber color. They're standardizing the grading system next year for syrup throughout Canada and the U.S. Right now you can use the old and the new

system. The old grading system would classify this syrup as “Grade A Medium Amber.” The new grading system would call it “Amber Color & Rich Taste.”

Syrup tends to be lighter at the beginning of the season, when the sugar content of the sap is higher, and darker as the season progresses and the sugar content drops. Big commercial operators like Emmons are able to keep the syrup a medium amber color for most of the season.

Aaron explains that to keep the syrup “Amber Color & Rich Taste” the sap should flow like a river through the evaporator. Finished syrup needs to be siphoned off at the same rate sap is added. To allow the sap to flow like a river, it helps to have an RO pre-concentrating your syrup to 8 percent sugar.

The sap won’t flow like a river in the Devlin’s sugar shack. It might take four hours to boil one gallon of syrup that will need to be finished on the stove. It’ll be syrup of “Very Dark Color & Strong Taste.”

Aaron fills two to five fifty gallon drums of syrup in a night of work. He takes a sample vial for each drum, to grade and label them. Old vials have been placed on the windowsill—reminiscent of an apothecary—in gradations of translucent golden amber to deep mahogany brown.

Sara and I won’t be running the evaporator during the sugaring season. There’s too much at stake. A screw up on one drum full of syrup would be a \$2500 mistake. A lapse of a few minutes would be equivalent of my pay for the last few months.

I’d rather not see Aaron’s clenched red face after that. I’d rather keep leak checking in the woods and avoid the responsibility altogether.

I'm good at screwing up operations with too many instructions. Mechanics don't stick in my head in a step-by-step format. While I focus on the first step, all the other steps dive and crash into a pile and I can never be sure which one to pick next: Do I turn the temperature up, or add less concentrate, or both?

I figure my way through the world through trial and error, working through a problem at my own piecemeal pace. It's experiential, not linear or logical.

I'll stick with my small stakes experience on the Devlin's evaporator. The worst that could happen would be a scorched pan and one gallon of ruined syrup.

I'll boil my first batch this weekend.

What I Remember Now

April 7th

Hi: 45 Lo: 23

Nanabozho, the Anishinaabe Original Man...was dismayed when he came upon villages where...instead of seeing piles of firewood and caches of corn, he found the people lying beneath maple trees with their mouths wide open, catching the thick, sweet syrup of the generous trees. They had become lazy and took for granted the gifts of the Creator... He went to the river and dipped up many buckets of water. He poured the water straight into the maple trees to dilute the syrup. Today, maple sap flows like a stream of water with only a trace of sweetness to remind the people both of possibility and of responsibility.

-Adapted by Robin Wall Kimmerer from *Braiding Sweetgrass*

The process of obtaining it [syrup] is extremely simple, and is so far, generally speaking, from being considered laborious, that the sugar season...is rather deemed one of festivity than toil

-Joseph Bouchette, 1832, from *The Maple Sugar Book*

I tap at the keys of my glowing screen bathed in the fog of the sugar shack. This is my second night of sugaring. The weekend was a marvel of sensations. The days and nights filled with aroma, moisture, laughter, pleasure, frustration, and creation. What I remember now are fragments, scenes splattered out and dabbed up with the cotton swab of my meninges. What I remember now are emotions, wonderful romantic emotions that swirled and swept through a red medium, out to the fingertips and back to the center. What I remember now I write, because I don't want to forget it.

I remember scrubbing in the sun. Scrubbing and scrubbing with warm water I'd brought down in buckets from the house in the glorious sun of afternoon. As I scrubbed the front pan, Mike was showing Paige how to weld the back pan, because Chuck was

right, a joint did break when we pulled it off the firebox. I scrubbed with steel wool, and the pan found its sheen again. I couldn't scrub the rust from the flues of the rear pan. To keep the sap clean, I decided to boil only in the front pan and put water in the rear pan to keep it from burning.

I remember the quick flames. Flames eating up the dry maple I'd stored in the Devlin's basement. The same maple I'd cut up and split in the snow of February. The wood caught without a breath from my lungs, and soon I was adding heavy logs and the heat was leaping out the stove door.

I remember how cool the condensation on my brow and the tip of my nose was as I pulled back from the pan—moisture on my skin that was a mixture of sweet fog, sweat, and mucus. It was like the plunge from a hot pool to an icy river—a splash of awakening to the capillaries.

I remember the burrowing sting of smoke that found my eyes if I lingered too long over the pan. The smoke that found the holes in the firebox or the gaps at the sides of the pans and mixed with the sweet fog—as inconspicuous as arsenic in water—and found the films of my eyes and pushed through the membranes, making them water and weep and sting in their firm resistance.

I remember the charred crunch of hot dogs and the deep melody of the cello, the taste of fire and smoke as I sat in a chair, and listened to the beckoning bow and angelic voice of the band *Crooked Still*. I sat still for a minute to eat with the Devlin clan who'd come down to roast hot dogs in the firebox, and show me they thought I was a good man, a good match for their daughter, and a part of the family.

I remember drinking the closest thing I might have in this life to the sweet nectar of the gods. It was from a mug, dipped straight into brown liquid, sputtering and roiling at 115 degrees.

It was the real deal. The taste combined slumber after sex on a humid afternoon in summer with fir sap and sawdust on your hands after cutting down a Christmas tree. It had terroir too. There was the faint smoke of the sap house and the rich, calloused taste of trees that had worked to grow tall, and hadn't had the benefit of thinning. We shared the syrup with Paige's cousin and husband when they wandered down after their young one was asleep. They agreed they'd never tasted syrup so good (though one was an Aunt Jemima fan). They understood now why people took time out of their spring lives to make it.

I remember smiling at my sweet Paige, sitting on my lap, long after everyone had left, and the sap was still boiling steady. She had helped me all weekend. She was always helping me. She smiled back and we laughed, and we kissed and I forgot all about checking the level of sap in the pan, and we let ourselves fall into each other in the fog, and we could've been anywhere in the world or far up in the sky, so immersed were we in sweet touch and taste, and we could have been lost in that fog for an hour, we only found the room again when the fog abated, and I had to fetch more logs to put on the fire.

I remember sitting and waiting. Sitting and waiting with just the light of my headlamp illuminating the fog. Everyone was gone. I was waiting for the sap to flow through the pan. I appreciated the wait.

I remember the hot flash of syrup on my thighs as I bumped to the cabin in the truck with a pot half full of syrup in my lap at one in the morning. The road was rough

even if you drove slow because it was mud season now. In places the road was dirt and in other places it was frozen—a jumble of oblong ice and snow. I swore at the road and the truck every time I spilled the precious liquid. In the morning, the steering wheel was sticky.

I remember the satisfaction of sleep with my first batch of syrup nearly finished. I cut the wood, I tapped the trees, I collected the sap, and I boiled it to syrup.

I remember the thick syrup I was finishing on the electric stove hardening into candy as it cooled. I heated it again, and poured it into a pan. I had boiled too long, and made maple sugar. My mistake had made something unexpectedly delicious.

I remember not worrying about anything outside of sap and wood and syrup this weekend: the tubing could be leaking, the climate could be warming, the foundation of neo-capitalism could be collapsing, but I had made a pan of maple sugar to be proud of.

Kidding

April 11th

Hi: 58 Lo: 26

I write in a bitter smoke again. I could've finished my boil hours ago, but I haven't tended to the fire.

I arrived home from leak checking, poured some sap in the pan, started the fire, and checked all my buckets and bags. I've added a handful of trees next to the sugar shack—an old line of tubing on gravity Chuck didn't want to use, and a few maples with plastic milk jugs hanging from their spouts, what *Backyard Sugarin'* calls the "Idlenot Dairy Low-Fat Sap Bucket." This brings my total to about fifty taps on forty trees (I'm never inclined to count the exact number of tapholes or maples; I have a grove, not a herd, and yield per taphole is not a metric that tells you how good the syrup is.)

I've been emptying the buckets and bags everyday. There's a clumping of maples around the cabin. Most of these trees are tucked between full-grown balsams and spruce, and stay shaded for most of the day. Their sapwood doesn't warm as much during the day as the trees in the sun, and they don't give as much sap.

There's one proud tree with split trunks, in a sunny spot down near the creek that fills one bag and one bucket everyday. It gives six to eight gallons, as much as ten trees in the shade nearby.

The other trees I've tapped are along the driveway, or in the clearing up by the house. There was a packed snowshoe track to every spout. It's just ankle-deep slop now. A few days ago, it rained all night, and the brooks were up. The sap house at Emmons

was under a foot of water. The creek overflowed onto Bear Cub Lane. Pete was trying to make a channel through our access road with the tractor so the water wouldn't get any higher, and threaten the full tanks of sap or drown the growth of the vacuum.

I've been taking Mike's tractor out to make the driveway to the cabin passable. The ruts you drive in are deep, too deep for the Subaru. You can drive outside the ruts, but you run the risk of getting pulled into the heavy snow banks.

I pour the sap I collect into five gallon buckets, load them into the truck, and drive as slow as I can to the sugar shack. I build up the fire and put more than two inches of sap in the pan. I drive to the cabin.

Paige has just arrived home from goat tending at Asgaard farm. When ski season ended in the middle of March, she contacted the Bronners—good family friends of the Devlins—to see if they needed help at their farm. It was kidding season—the busiest time of year—and they needed the help.

Asgaard farm is in Ausable Forks, thirty miles east of Lake Placid. The farm has history. The renowned painter and leftist American Labor Party organizer, Rockwell Kent, bought the farm in 1926, and had it run as a dairy until his death in 1971. He named the farm Asgaard—"Farm of the Gods" in Norse mythology. He raised a big white barn with the farm's name painted in four-foot high letters on its front. He built an enormous dog house the size of a small cabin for his Great Danes.

After Kent's death the farm was not run as a dairy. In 2003, the Bronners turned it into a producer of stupendous local goat cheese, goat sausage, goat milk, and goat milk soap. They've added a certified, sanitary cheese room. They have cows and chickens too. They employ five full-time young folks who are all eager and hard working. They sell

their cheese and sausage at all the local farmers markets. They rent out a quaint house on the property. They're doing everything right, but they still operate at a loss. A New York City banking income supports the farm.

Rockwell Kent knew the hard reality of trying to run a farm at a profit:

You'd think—I mean that people who have never owned a farm would think—that when a farmer, paying his own taxes and all his costs of operation, can earn enough to live, he'd earn at least as much when someone else pays his taxes and his costs for him, not to mention a salary. But it's funny about farming...It just doesn't work out that way.

Aaron gave me the day off from leak-checking yesterday. I went out to work at the farm. The snow vanished as we drove out of the mountains towards the Champlain Valley. The farm was vintage New England— domed white barns and a network of outbuildings and in-buildings you could pass between. The goats are Alpines, Nubians and Saanens. They're trying to move towards a herd of Alpines—for their hardiness—and Saanens—for the quality of their milk. Nubians are from Africa. They aren't bred to live in upstate New York.

The kids are four weeks old. They're destructive creatures. Adorable too. They nibble hard on your fingers like they're suckling on teets.

I helped to move the kids from their paddocks in the barn out to a hoop house where they'd be kept for the remainder of spring. Herding goats is not like herding cows. If you try to push them from behind they'll just bleat and scatter in every direction.

You lead from the front. You are a goat runner. The kids bounce alongside you. Sometimes one kid has the bliss of the moment come into him, and he bounces extra high right off the side of your legs, and you are nearly tripped by his exuberance.

About half of the sixty kids are males. They are just as destructive and adorable as the females, but they will be made into sausage at ten months old. Any dairy has to do something with their males. Most go to the butcher.

Goat has a distinctive taste. It's tougher than lamb, but still lean and rich. It's the most eaten meat in the world.

I'd like to own goats when we have land to keep them. I'd like to believe I could butcher the goats I raised by then. I'd need to butcher them if I wanted to keep eating meat.

Stephanie, one of the young goat-farmers, says she was a vegetarian before she raised goats. As she sees it, she's bringing them into the world and giving them a good, brief life. She giveth and taketh away. An omnipotent master of the goats.

I left the farm early in the afternoon, my limbs sagging with exhaustion. I napped in the loft. I reconsidered the move to an agrarian lifestyle.

The agrarian life is all consuming. The goat farmers work ten to twelve hours a day, seven days a week, year round. Twenty-four-year-old Noah—Stephanie's boyfriend and fellow caretaker—told Paige he was too old for adventuring. Too old for adventuring! That's like saying you're too old to have fun, or sing out loud, or go skinny-dipping!

I don't think it's naïve of me to think there's more to life than tending goats, or tapping maple trees. Wendell Berry does, on occasion, break free of his farm and travel outside of Henry County, Kentucky. He's lived snippets of life as far afield as New York and Italy. He writes poetry and essays and books too. Their subjects extend beyond the workings of his farm. His orbit is large.

There's wild space out beyond the edge of the field that beckons to me. There are no boundaries out there, no boundaries to keep everything neat and clean and efficient.

There are places I love to go where nothing needs to be controlled. You can walk in and walk out and know you left only the imprint of your shoe. When I abide in these places, I sometimes think it's a shame we don't know how to live there. We could've lived there, we could've chosen, as a species, to inhabit space as invisibly as the fox, as carefully as the hare.

It would've required a choice, about 10,000 years ago. We wouldn't be farming, we wouldn't live as long, and I wouldn't be writing this book. I might be telling a story though. And it might be a story that would last for generations.

If we had made this choice, we'd know that the earth was healthy. We'd know it by the smell of the fresh air—we'd always be immersed in fresh air. We'd know it by the purity of the water. We'd know it by the healthy coat of the deer we hunted. We'd know balance.

It's hard for me to find balance today in the world we've authored. But there are places, outside the tame and the managed, where I can find it. Places like the rising slopes of Tahawus, or the forgotten valleys of the Great Burn. I can go there to remember a different way to live.

Paige is home from Asgaard, and she's cooking goat sausage. I have to shout to talk to her over the roar of the creek under the cabin.

I walk back to the sugar shack, throw more maple logs in the firebox, and add more sap to the pan. I return for dinner. It's an hour and a half before I trudge back.

There's still two inches of cooling sap in the pans. I throw wood in the firebox and settle in for a late night.

Story

April 13th

Hi: 55 Lo: 30

I'm boiling in the shack again. I finished close to a gallon of syrup on the stove last night, but used a half-pint of syrup on pancakes with the Devlins this morning (Mike's liberal with his syrup use).

Paige and I have had a riotous time the last few days. Yesterday we skied all day in sixty-degree sun up onto the Wright slides, the sheer scars above the north side of Marcy Dam. We skied down a landslide gully that was half jumbled logs and rocks, and half snow. My skis went under a log, I snapped a pole, and nearly impaled myself on a sharp stick. I'm not ready to ski Mustagatah.

This evening, before we ate burgers on the deck with the Devlins, we went on a romping run through the mud, snow and icy slush behind the house. Our shoes and socks were wet right away, and we stopped trying to run around the pools of ice water that pooled on the frozen topsoil. We whooped, and Paige shrieked, and we ignored the cold in our feet because our bodies were vigorously pumping blood, and it was fifty degrees out, and we could put dry socks on when we got home.

Sitting in the sugar shack tonight, Paige asks me to tell her a story. I say I can't remember any stories, but I'll tell her one. My favorite part of storytelling is not knowing where the story will go. I begin in a town in the woods...

There was a small town, quaint, but quiet. It was nestled in one of the deepest hardwood forests of the northeast. On the outskirts of town, not far from one of the two roads passing through, was an old log cabin. The cabin was on a knoll in the deep woods, and no road or path led to it.

Some people in town thought the cabin was empty, but the kids—the ones who poked their noses where they shouldn't poke—knew that someone lived in the cabin. In the summer, there was no sign of anyone living there. But when the nights turned brisk with the first blush of fall you could smell a curl of smoke if the wind was right. And when the nights started to be longer than the days—during the time when the town itself hibernated because the cold gripped so hard, and people only went outside to do what they had to do and nothing more—then a dim light would come on in the cabin at dusk, and it would stay on through the night until the frosty glint of morning.

There was a boy and a girl who grew up in the town, and had known each other through their childhood. They were particularly adventuresome, and as they grew they adventured everywhere together. But the one place they avoided was the old cabin.

The boy and girl were nearing the end of their schooling, and were both eager to explore the wide world outside of their small town. They had always enjoyed each other's company, and as they aged they'd developed affection for each other, but it hadn't blossomed into a romance. It couldn't because they were bound in different directions.

In the middle of spring, when maple trees were dripping sap and all the sugarhouses were steaming in town, the boy, who had the deep voice of a young man now, proposed one last adventure to the girl, who had the hint of grace of a young woman. They hadn't been near the old cabin in years, but the boy had been close by at

dusk a few days before, and hadn't seen a light on in the window, and was thinking that whoever was living there—an old crotchety hermit, or an itinerant squatter—had probably moved on by now, and it would be neat to see what they had left. The girl, eager to have one last exhilarating time with the boy said yes.

So on a brilliant early evening in spring, when the sun was still radiating, and the snow had pockets of duff, and rivulets of water coursed down the hill, the two of them tromped up the hill to the cabin. Moss was layered thick between the logs of the cabin and there was one small window that was too high for them to see through. There was a single door at the back. The boy was hesitant to touch the knob once they arrived, but the girl strode forward, turned it, and swung it in.

...I stop, open the firebox and throw a big wet birch log onto the blaze. Paige is sitting in one of the chairs, smiling up at me because she knows I still don't know what comes next in the story. I close the firebox, smirk at her, and plunge back in...

It was one big room inside. They peered in, and at first there didn't appear to be anything there. The light was diffuse and gray. They could see the stove and the chimney on the far side of the room. It was clean without any ash on the sill. They stepped in and looked to the left.

They stared in disbelief. The entire wall had shelves from floor to ceiling and on the shelves were carved wooden figures. Some were carved from cedar. Others were cherry. As they looked closer they realized they knew the figures. They were the people of their town. Only many of them looked different—older. Mr. Shipley, the town mayor, was old and looked inconsolably sad, like a shroud was draped over him, and there was no Mrs. Shipley—their beloved 3rd grade teacher—next to him.

The charming Clair family was there too, but their typical beaming smiles were tempered into plain expressions, and though the two daughters, Lisa and Shyla were present, their younger brother, Eddie, was not.

The boy and girl were about to look for themselves on the shelves when they heard a soft snort in the corner behind them. They whirled around and there in the corner, sitting in a plain wooden chair was the woodmaker. He was sleeping. His head was slumped lightly on his chest. His face was crinkled deep with age, but there were wrinkles of creation around his eyes.

The boy and the girl were frozen and stared at the old man. It seemed like he had been sleeping a long time, and might never wake. But suddenly, one eye opened, and then the next, and they were deep, deep blue eyes, as deep blue as the depths of an ocean they had never seen. And they didn't scream, but they ran, and they didn't stop until they reached the boy's house.

They didn't talk about the old woodmaker in the cabin. Summer caught onto spring and soon they were headed in separate directions. The boy was headed south to the dry atonement of the desert, and the girl was headed north into the icy illusions of the arctic. They said they'd be in touch, and send postcards when they could.

Five years passed. They did stay in touch. They wrote frequently to each other because they couldn't think of anyone else they'd rather write to. They didn't mention in the letters the news from home they'd heard: Mrs. Shipley had died suddenly from cancer and Eddie Clair had been killed in a car accident.

The girl moved home because she missed her family, and couldn't think of anywhere else to roam. The boy was still traveling; he had kept going south and was

close to the tip of South America. The girl didn't have much to do at home, so she started dancing. She danced and danced late through the night in her room. She told the boy she had started dancing. He told her he had started singing. And he said he would be stopping by the town on the way east, to Africa, and could he stay with her for a night?

...I pause to add cold sap to the back pan. I know my audience is hooked. She's always loved a good romance...

The boy arrived and stayed with the girl in the loft above the tattered garage she was living in. That night they talked and talked about all the wild and wonderful places they'd been. The boy was a young man now. He had a thin beard but his skin was weathered beyond his years and his eyes had seeds of compassion. The girl was a young woman now, she was slender, but she had full breasts and hips and her hair hung nearly to her waist. Her face was pure and kind and her smile made anyone feel welcome.

They talked late into the night, and they woke early in the morning. It was late fall, and most of the leaves were on the ground, and they were frosted white. They went for a walk down to the river, and at the river the man took the woman's mittened hand in his because he knew he didn't want to leave that day. And the woman moved close enough to the man's face to feel the warmth of his breath, and paused a moment, before kissing him because she knew she never wanted him to leave.

So he stayed in the bedroom loft for a week, then a month, then six months and they had as many adventures as they'd ever had before.

One night, they were lying next to each other and celebrating each other's smiles when the woman said,

“I want to know what will become of us. Can we go up to the cabin? I’ve heard the old woodmaker has left.”

And the man said he didn’t want to. What if one of them was missing from the shelf? But the woman said she needed to know their future, needed to know that nothing would happen to the man because how could she keep loving him now if someday he would not be there. And the man said he would go, but only if she promised to keep loving him even if he was not on the shelf.

...Paige interrupts to remind me that the story must have a happy ending. The stories she used to tell would always have happy endings. So would her dad’s. I tell her there will be no firm end to the story, I like my stories to continue, but I’ll keep her wishes in mind...

It was nearly May when they walked through mud and leaves up to the cabin. It had been a long, cold winter, spring had pushed back, and the maples were still dripping sap. They arrived at the back of the cabin, and again it was the woman who turned the knob and pushed the door in, but this time she held the hand of the man as she did so.

They stepped in, and a voice muttered from the same corner behind the door, “I suppose you’ve come to see what will become of you.” It was the old man. He was awake and sitting in the chair.

They did not run. His face was kind.

“Well, let me see,” he muttered, rising and hobbling with a slight limp across the room, “I remember carving one.”

Fear rose in the man and the woman. Which one of them was left alone? They tightened their grip on each other’s hand.

“Ah, yes. Here it is.”

He went to the far corner, to the third shelf off the floor, and picked up a carved figure, and wrapped it in his arm. He hobbled back to the man and woman.

“This is for you two,” he said and held the figure out.

It was carved from one piece of cedar, but it was two figures, nearly indistinguishable except for the long hair of the woman and the thin beard of the man. They were one together in a locked embrace that could never be pried apart.

“I’d like you to keep it,” the old man said, placing it in the woman’s hands.

“This one will never change.”

I finish the story and Paige embraces me tight. She says she can’t wait for me to tell my stories, and our story, to our children. She leaves, smiling into the dark, and I remain, sated, in the glow of the shack.

I stay past midnight. As I leave I can hear the first thunder rolls of spring—rumbles in the night that could be a train—the track passes nearby—except I don’t hear a whistle.

Pushing Out

April 15th

Hi: 60 Lo: 17

The spouts are pushing out. The maples are healing the hole in their sapwood, they're waking from their dormancy, and they're pushing the plastic out.

When a spout is forced out it starts a vacuum leak. The weather's been warm, but the vacuum's still pulling sap. We hammered all the spouts in B-section back in to keep the vacuum tight and the sap flowing.

We are at the overlap of seasons. The rain began this morning, and the temperature dropped all day.

At five it starts snowing—fat, puffy, wet flakes.

The creek under the cabin becomes a leaping torrent, a pulsing flood, and the snow—falling heavy into it—is swallowed up by white foam. Within an hour, the soggy brown earth is white and clean again, and the cedars are bowing lower over the creek, and the space just above the waves is liminal, a place between violent spray and soft snow.

I sit in the cabin at the table, watching this chaos of seasons, considering the resilient push of the spouts, and admitting to myself, for the first time, that I am depressed.

Paige has noticed my depression for weeks. My dad suspects it from our phone conversations. They both have lived through it themselves—acutely and chronically. They've noticed some of the signs in me: withdrawal, fatigue, and hopelessness.

I woke up after a long night of sleep this morning, and couldn't shake a heavy blanket of fatigue. I thought going outside would shed it.

It started raining—hard and steady rain—and we knew the rivers would be flooding. I wanted to go for a rain walk along a swollen creek to a waterfall, to see its heft and speed.

As a boy, I remember donning thick yellow raingear during an El Nino year—when it didn't stop raining for thirty days straight—and hiking with my dad along Cascade Creek above Alpine Lake, and loving the climb up a landscape of water, the wade through streams overflowing down the trail, the rain coming down and down and never showing a sign that it would stop or slow, the creek finding new courses, tumbling and burrowing and spreading over the hillside. I loved seeing the water as earth shifter. I loved being in the deluge when no one else was.

I wanted to hike to Tenderfoot Falls near Keene Valley. We started driving south and Paige took a call from a friend who said the Keene Bridge was under threat, and they might close the road later today. Paige didn't want to get stuck in Keene; I was willing to risk it. We turned around and drove to the Northville-Placid trail on Averyville Road, by the Ausable River.

There was a slick layer of ice on the trail, and water was collecting on the ice and overflowing in sheets towards the river. Off the trail the earth was wet and boggy and pungent. I had been in a place like this, without the ice and snow—the Pacific Northwest in spring. Specifically, the Oregon Coast Range, where I scoured the skies for a threatened seabird, the Marbled Murrelet. There were the ferns that always reminded me of miniature palm trees as well as the long, serrated sword ferns. There were

decomposing, moss-graced logs at every angle and slatted layers of green lichen hanging off the maples. The forest was soaked and dripping. It looked messy—logs, branches and leaves all exposed from beneath their snowy cloak. It was a forest full of entropy—new growth and decomposition bounded ahead at the same time.

I was delighting in the vibrancy of the forest, and the company of my sweetheart when we turned around, back towards home, and weight sunk into my legs, and fatigue found my shoulders and pulled them down. What was I doing in Lake Placid? What was I searching for? How would I write anything from the last few months?

I held the weight and slowed behind Paige and Adi, and became wet and cold and miserable and wanted to lie in a warm, dry bed and sleep. I got home and lay in bed and told Paige I didn't want to tap trees in the winter, or spray weeds in the summer. I wanted passion. I wanted independence. I wanted simultaneous physical and intellectual stimulation. I wanted to set myself apart. I wanted the vocation made for me. I wanted to expel the spout. I wanted wonder everyday.

Paige sat down on our mattress on the floor and said the wonder, the passion, the independence was all already there. The trees only noticed the spout and pushed it out when they shed the casing of winter and began growing again.

I told her she was being Buddhist and I loved her for it. I got up, walked downstairs to the table, watched the snow falling on the river, and wrote what was true:

1. I get depressed—I put piles of pressure on myself to do the very best and if I don't achieve that standard, I sink down. I tap the spout into myself.

2. There are too many privileges and joys to count in the short hours of the day. Just now, I'm watching the snow bless the flooding river, while sitting in a warm cabin, and sipping a cup of hot, Earl Grey tea Paige has brought me.

As I write, Paige pins Adi on the floor and takes the forceps in hand. She pulls and pulls, and an inch and a half porcupine quill comes out of Adi's snout. It's been in there nearly six weeks. One end looks like the eye of a potato—it's splitting, splaying out as if it was growing.

Paige had to pull the spine clear and free, yank it out so the tissues could heal. She never thought about letting it fester, or pushing it further in.

Part IV

Crown

Ice

April 16th

Hi: 57 Lo: 12

I wake to ice. It accreted through the night from the spray of the river, one layer at a time, until it formed globular structures hanging off twigs and weighing down cedar branches, plunging them into the foam.

It's a blue day. Paige has left to visit her sister in D.C.

I go for a run, a long run.

I run to a cathedral of ice. Rainbow Falls is billowing mist that settles and freezes on every surface. The cliffs are thatched in rime and logs by the creek have white tentacles three feet long. There's a frozen tapestry above me of yellow and green mosses.

If I had stayed here all night I might've been frozen in place this morning—affixed to the landscape.

But I'm moving. I run up through untracked snow to a block of granite. It's called Indian Head. It juts out over a stretched skinny lake called Lower Ausable that is pinched between the mountains. The lake's frozen. No one's here.

I yodel. I hang my feet off the cliff and yodel.

The sun beats off my skin, absorbs into my capillaries like a maple. I soak it up. Cells whiz and fire. I run for four hours in the snow. I'm weightless. Sun-powered.

Spring

April 18th

Hi: 45 Lo: 16

At Emmons, the sun's warmth has brightened almost everyone's mood. Sara's chipper as ever. Pete's been downright jolly. He nearly crowed when he told us the vacuum on C10 was at 21 inches of vacuum throughout the season, not 17 as the faulty sensor had indicated. We hadn't missed a leak; we'd just wasted our time.

Aaron's the only one who's still wound up. As he's finishing up the maple season, he's trying to put out a dedicated tubing network for five hundred birch trees. We'll be tapping the birch trees as soon as the tubing is up. They should start giving sap as the soil warms, once their roots reach fifty degrees.

Sara and I attach ¾-inch mainline tubing to the taut wires Aaron's strung out in A-section. I muck through spring—snow dripping from the trees and filling brooks with jumping water, the leaves musty, brown, and slick, and the earth pockmarked with holes where the frost has collapsed into the ground.

The cold across the Northeast and Midwest in 2014 has already become legendary. The Great Lakes had nearly 93% ice coverage, the highest since 1979. Typically, the Lakes warm the arctic air blowing towards the Northeast, but this year they cooled it. The ice reached its maximum coverage in March, and that is when northeastern temperatures plunged. Vermont had the coldest March in recorded history. New York had its fifth coldest March.

March in the Adirondacks may have been colder than anywhere else in the country. International Falls, Minnesota, the reigning icebox of the U.S (only 13 days with lows above zero in January and February combined), had 16 days with temperatures below zero in March. It dipped to 33 below on March 3rd. Lake Placid had 17 days below zero in March. It dipped to 29 below in Saranac Lake on March 17th.

Winter's held its grip for long enough. Spring is here.

Woodlot

April 19th

Hi: 53 Lo: 32

Sara thinks everyone in the East who has access to a woodlot should be burning wood for heat. If people used their woodlots more, they'd stop supporting the oil industry.

Sara is working to be as self-reliant as she can. She already has her homestead on forty acres in Hausick Falls, New York, planned out. Her boyfriend Nate owns the land. They're moving there when she finishes this job at the end of May. In the first year, she'll have a hundred meat chickens, and she'll plant at least forty apple trees. They'll buy a portable sawmill and cut the trees on site to build their house. For awhile, she'll work in log home construction to support herself, but once she has kids—and she will have at least two kids—she'd like to stay at home and tend the homestead.

I've thought about a homestead too, but right now my vision doesn't extend beyond the confines of our quarter acre lot in Missoula. That's enough to manage. I've been daydreaming about converting the lawn into a food forest—a lush, sumptuous garden that hardly needs water in our arid Montana climate.

I've been having practical daydreams too. The first day after I get home, I'll seed the carrots, onions and radishes. They should've been started at the end of April, but we should be able to still get a good crop before it heats up too much. If it's late enough in May I'll plant the tomatoes in the ground. The next day, I'll build a hugelkultur bed—a mound of wood with soil over it—in the side yard and plant squash and potatoes in it.

I've heard squash and potatoes do fantastic in hugelkultur, and you hardly have to water them.

Sara and I are stringing birch line, on the highest part of A-section by the stout White pines, the biggest trees in the forest here.

I tell her as much as I support wood burning, I don't think it's practical in most of the East. The air would become thick with noxious particulate if everyone burned wood in populated areas.

There's beetle-kill pine, stacked high and dry in the forests around Missoula, but no one burns it in their homes. Missoula air quality was as bad as the Adirondacks acid rain not long ago. It still struggles with an inversion. Wood-burning stoves have been outlawed within the city's limits.

In the Adirondacks, wood burning makes good sense. You can be self-sustaining and carbon neutral if you burn standing dead wood from your property. Of course there are still consequences to burning wood "sustainably." Per unit of energy, you're still emitting more methane than you would burning coal.

I'm realizing my personal choices aren't so personal. If I could burn wood, and tend a homestead for my family and still feel responsible, I would. But I don't live alone. I live with seven billion other people and trillions of other organisms. Sometimes I'd like to escape from all but five or ten of those people—shove off from it all, and exist in isolated bliss. But I have a responsibility to lives beyond my own. I must make choices that I may never benefit from.

Anniversary

April 20th

Hi: 45 Lo: 22

Five years ago, we met at a small college in Walla Walla, Washington. I was shy then, we were both shy, and needed an introduction from a friend. The first time my Dad met Paige he said,

“You won’t meet another like her. Don’t screw it up.”

I tumbled into love. She became my focus, my obsession. I flew to Lake Placid for her. I flew to Denmark for her. By December, my grasping had become too much. She said we needed to stop. When I realized what that meant, I couldn’t stop sobbing. I had screwed it up.

I let go—God, it was hard to let go—before she swung back, on the same day we met, a year before, at a cycling race in Walla Walla.

The next spring, I nearly screwed it up again. I was confused, delusional, and thought I could have a go at life without her. I could, but it would be a very different life.

Now we celebrate on a day others use to puff a pungent herb.

I pick Paige up from the airport in Burlington and we have a day on the town. We eat brunch at Penny Cluse, and browse the cobbled downtown streets of the city on a fresh spring day. I buy her the Herkimer Diamond earrings I knew she wanted as a surprise (not real diamonds, but gleaming quartz from Herkimer, NY). We drive back to the cabin for home grilled goat shank and red wine. I serenade her with Wild Mountain

Thyme—a traditional Irish tune I learned on the guitar. Abundant tears slide down her red cheeks.

It's a sweet day. So many of our days are sweet. They give off a fragrance that's hard to ignore, one that wafts and lingers and perfumes the air like lilacs. I will ask her to marry me this year.

Birch

April 25th

Hi 46: Lo: 24

I've been tapping birch trees at Emmons and the Devlins. I boiled my last batch of maple syrup three days ago late into the night. The same night, Aaron tried to force the last run of syrup through the filters. It was slimy. It felt like mucus and clung like webbing between my fingers.

He couldn't get the goo through the filters. Emmons made 1,400 gallons of syrup this season. In an average year they make 2,000 gallons.

This late in the season the sugars are streaming up through the sapwood to the buds. The sap has lower sugar content and can make "buddy," off-taste syrup. My last batch of syrup was very dark, nearly black, but didn't yet taste "buddy."

The bags of birch sap are as full as fat tick bellies. Birch trees start giving sap when the ground temperature is above fifty degrees. They've started sucking water up from the sopping ground the last few days and dripping it out of the taps.

I've been tapping birch trees at Emmons and at the Devlins. We tap yellow birch and white birch. White birch is known as paper birch. Alaska's the leading producer of birch syrup. They have forests full of birch, but few other hardwoods they could tap.

Yellow birch can grow to be among the broadest hardwoods in the forest. They give gallon after gallon of sap, but often it's only a half or three-quarters percent sugar.

White birches are the most elegant trees in the forest. Their sap can be one percent sugar. Thus far, they give less sap.

Birch bark is fantastic. Maple bark has nuance and texture. Birch bark has flair and subtlety.

Birch trees are always shedding their bark. Yellow birch sheds in tight delicate curls—as tight and delicate as a woman’s fine hair released from a curling iron. When it sheds just the film of its bark, it doesn’t curl, it hangs in translucent strips. The bark is amber yellow that can deepen to bronze in the glow of the departing sun.

White birch sheds in thick, durable strips. They are not a prodigious shedder like the yellow birch. The bark reflects cumulus clouds on a late summer day—growing, shrinking, shifting into variegated, and overlapping shades of white and grey. The obvious black horizontal bars on the bark are called lenticels. They allow the tree to breathe. These pores are how the trunk of the tree feels its surroundings—its skin. If the air were filled with sulphur dioxide the tree would absorb it through hundreds of slits in its bark. It would show signs of sickness. It might die.

You’re not supposed to use buckets with birch sap. The sap is acidic and will loose toxic metals from the galvanized metal into your sap. I hang all the maple bags I have on birch trees—close to twenty by the time I’ve finished.

Making birch sap at home is uneconomical. A hundred gallons of birch sap makes one gallon of molasses dark, 74% sugar syrup. To make it profitable you need an RO to cut down on your fuel and time investment. With an RO, and a market, birch syrup can be very profitable. Emmons sells a 40ml bottle for \$5. If you multiply that out, it’s worth \$473 a gallon.

At Emmons, we’ve tapped over five hundred birch trees. I’ve loved it. I’ve been wearing leather boots, un-insulated Carhartt’s and a thin, snap-up Wrangler shirt. I’ve

been nearly bouncing between trees without the lug of snow on my feet. All the distances around the sugarbush have shortened.

I've spent my days in my favorite part of the sugarbush, the part that hasn't been thinned out, on the western border of the property where you climb through balsams to reach the paper birch groves—birch that beam, like fresh white sheets in summertime against a boundless blue sky.

Birch syrup is sensuous. It accompanies rich meats and mixes well with warm drinks. It's like dark velvet chocolate. A spoonful's enough to sate you, but you still want more.

When I get a hundred gallons of birch sap at the Devlins, I'll do one boil down for the fun of it. Birch sugar is mainly glucose and fructose, not the sucrose in maple. The sap can burn easily if it starts boiling. I'll need to simmer it all day and night. I might get a gallon.

Sugar Folk

May 2nd

Hi: 54 Lo: 40

At the tail end of the sugar season, when all the sugarmakers are stocked with their sweet bounty, and are as eager as school children in June to make more syrup next year, the big names in sugaring hold their open houses. It's a chance to hear seminars from some of the industry experts, browse and ogle over all the latest technologies in sugaring, and mingle with your fellow sugar folk.

Goodrich's Maple Farm is hosting the first open house of the weekend at their sugarhouse near Cabot, Vermont.

I arrive from the north on Route 2. From a narrow pass, the valley spreads and slopes—a patchwork of glowing grass and grey stands of hardwood, and a road that dips and rises and keeps you waiting and watching for the next stately white barn atop a hill, or the herd of Holsteins chewing and watching you pass from a lush draw.

I'm eager today, eager to hear why these sugarfolk sugar. What keeps them out there mending the leaks in their lines or checking their buckets daily? What keeps them optimistic through a season when the sap is frozen until April or thaws in January?

Glenn and Ruth Goodrich run the farm. Glenn's wiry and keen. Ruth has the plump and aplomb of a strong, generous woman. Goodriches have sugared since 1796. They began selling syrup commercially in the 1840s. They are seventh generation sugarmakers. They tap 40,000 trees and they make award-winning syrup—the medals and ribbons in their gift shop prove it.

I mingle all day with Vermonters, New Hampshirers, Mainers, and a few Amish men from Ohio. It's an intimate gathering, no more than thirty or forty at a time. Most people know someone there.

I commiserate with the sugar folk. Though almost everyone had a short season and made less than they had hoped for, they're all happy to tell you about it.

A gaunt man with a limp who's sugared for fifty years in northern Vermont says the last time he can remember the sugar season starting this late was the winter of '63 or '64. That year, he boiled his first batch of syrup on April 24th and it tasted buddy.

He talks of sap like it is his own lifeblood. His sugarbush was ruined by the ice storms of 1998. Hundred of pounds of ice snapped the crowns clean off the trees.

"It ruined a lot of sugarmakers," he says. "I sold my land and bought another sugarbush. I worked that for a decade." He pauses to consider the time since then.

"I don't have a sugarbush now, and it's killing me. I've got this idea for 17, 18 thousand taps on AMC (Appalachian Mountain Club) land in Maine. They were interested at first. But not lately..."

I can tell it's agonizing for him to watch the sugarhouses steaming in the spring and not have one of his own. He's a shepherd without a flock, and I don't ask him why. For a man not to hold onto the vocation that has defined him for so long there must be a distinct reason, an event or an emotion in his life that's relegated him to watching instead of boiling.

I talk with the Johnsons who sugar outside of Burlington. They're close to retirement and they bought 450 acres on the edge of wilderness land a few years ago. The maples are plentiful on the steep hillsides. Their son's managing the 5800 taps for them

now. The first year, they hired a man to run their sugarbush, but that cost them \$80,000. Mrs. Johnson thinks if they expanded to 20,000 taps, they'd be profitable and Mr. Johnson could quit his job and start working the sugarbush.

Mrs. Johnson's family has sugared on the same Vermont farm since the 1700s.

"The new technology is way over my head," she says. I nod in genuine agreement.

"Everything has to be in sync, and if one part isn't working, the whole system goes out of whack. Really, the most important skill for a sugarer to have today is to be a good plumber."

I'm a lousy plumber. You wouldn't expect sugaring to be dependent on plumbing. But it is if you want to make some money off it.

For the Johnsons the sap didn't start flowing on their north-facing hillsides until the 3rd or 4th of April. They tapped all their trees this year with quarter inch spouts to avoid damaging the trees.

Mr. Johnson hears I'm from Montana.

"I used to work on the Ninemile Ranger District outside Missoula," he says. I tell him I've worked there too. We have something in common.

"It was thirty years ago," he recalls as he alights on the memory, "That's beautiful country there. Vermont's beautiful, but it's a pastoral beauty. There's just something about that wide open and wild feeling you get out there."

"It's a good place to live," I say, but when I say it I don't feel I am living there. I place it in the past because it's quiet, wooded, wet places that crowd into my present mind.

I've told the Johnsons I'm writing a book on the sugaring industry. They tell me if I want to get a sense of the big sugaring industry today, I should visit LaPierre in Quebec. They have 130,000 taps and are at the forefront of maple technology production.

I wander outside to look inside the other orange barns. One is full of stainless steel collection vats. The wind is blowing down the valley; the rain is at the pass, and on the way.

I introduce myself to an Amish man with boots, navy pants and shirt, and a full beard holding his jaw line. He must be married. He's sugared in Ohio since age 12. The sap flowed on his farm on March 1st and stopped on April 9th.

"The maples are a lot bigger in Ohio," he says, "But there's not as many of 'em. There are lots more people too, so the properties are smaller. We'd love some hills like this. It's so flat, it's hard to grade your tubing to two percent."

I'm surprised he's using a tubing system for sugaring, but I know the Amish do shift their practices. They accept some technologies, but reject those that lead to selfish vice. When I ask him if many people tap maples in Ohio, he tells me what he knows of his group,

"Most Amish have a few hundred taps with their farm."

Glenn Goodrich leads most of the seminars for the day. He has an unshakeable vigor for his age. He tries hard to make the compendium of sugaring information he's acquired accessible to his fellow sugar folk. He's the first person I've heard clearly explain the science behind reverse osmosis.

The basic idea is that under pressure, a series of mesh and filters in the RO cylinders will let water through, but not sugar because sugar molecules are monstrous in

comparison to water molecules (a bulky $C_6H_{12}O_6$ instead of H_2O). Osmosis is the natural movement of water across a semi-permeable membrane from a low concentration of solute to a high concentration of solute (in sugaring the high concentration of solute would be the sugar in the sap). Water moves to reach equilibrium. If osmosis was used in the sugarhouse, the sap would separate into two solutions of one percent sugar and you would make more work for yourself.

In reverse osmosis if you apply enough pressure to your sap—created by an external source of energy—you can not only overcome the natural osmotic pressure, but reverse it, and push the water in the sap against its concentration gradient, leaving the sugar, that can't fit through the membrane, behind. ROs are used predominantly for desalination of seawater, especially in the Southwestern states.

“It's one of those drought prevention measures they need there,” Glenn says. “We don't need it here, but we've taken the technology to make better syrup.”

Desalination plants use an average of 15,000-kilowatt hours of power for every million gallons of water they produce. In sugaring it should cost you 20 cents a gallon of syrup to run your RO. That's a lot less than the \$10 worth of oil per gallon of syrup to heat your evaporator (\$7 by wood). Of course a new RO can cost up to \$150,000.

As Glenn explains, the more membranes you have in your RO the more of an osmotic pressure you'll need to overcome and more time and energy it will take. The percentage you want to concentrate sap to in an RO depends on how big your operation is. One pass will get you to 8% sugar concentration. If your operation is 3,000 taps and you're averaging one gallon of sap per tree per day, you want to be at 8% concentration to be profitable.

I understand the RO now, but I don't understand how it makes you grateful for the sap you are given from the trees. As Robin Wall Kimmerer reflects, "It is our work, and our gratitude, that distills the sweetness." It is harder to be grateful when the work is all done for you. It is harder to have a relationship with the maples if we only take.

I learn all day. Some of what I learn I will remember. I learn in the tapping class taught by Glenn that you should always tap as far away as possible from last year's taphole. If you just tap in the next column—at least one inch over and six inches up or down—as we did at Emmons all season, the vacuum will seek the air from last year's hole and cause a leak. He's seen it happen many times on his sugarbush.

I trust Glenn: he's quick to smile and though I don't know how he treats his trees, he does treat his people—the sugarfolk here—kindly and that could be a fair indicator of his care. Aaron may be the expert, but there are many men I hear talk such as Glenn, or women whose words I read such as Robin Wall Kimmerer, whose authority I would rather trust.

After Glenn's talk, a man gets up to advocate for the Vermont Voluntary Inspection program. He tells us syrup is unique; it's not inspected by the USDA like other food products. Anyone can sell their syrup if they follow basic guidelines. There's still a foundation of trust between buyer and seller—a direct exchange. But that trust is eroding. In fact, the man seems to think it's already gone, for he tells us the Inspection program is based on the premise, "No one trusts everyone and everyone wants to sue someone." The program is there to rekindle the trust of your consumers for a nominal cost, as long as you've poured a washable concrete floor in your sugarhouse. I wonder when concrete

floors started guaranteeing better syrup, and how a local economy will ever work if a Vermonter can't trust his neighbor to make a clean pint of maple syrup.

It's raining in hard spurts outside now, so between talks, I wander around the shiny evaporator and try to guess how it might be run.

The last talk is about technology for the small producer. They make a small diaphragm pump now, called the Sap-Puller, that works off a 40-watt motor, and gives you a strong vacuum for a few hundred taps. It costs \$1000 and is cost-effective if you have a hundred taps. The man says, if you didn't have a vacuum this year you didn't have a great year. He says this Sap-Puller is the next step up for the small producer. After all, have you ever heard about a sugarmaker getting smaller?

At the end of his pitch, I almost want a Sap-Puller. I almost want to come back next year and tap two hundred trees somewhere in Lake Placid. It's addicting; it's alchemy. Every ounce of sap you make has so much so much energy, so much potential, and it's all been bottled up for you to savor. When you have a taste of this elixir, you always want more. You're tricked into thinking that it's you who's responsible for the sweetness, that it's your genius and work that's made the plentiful bounty.

You forget that the maple trees needed to grow for decades until they were ready to tap, and to grow they needed sunlight and nutrients and water and space. And once grown they need the right freeze and thaw conditions to pull the sap up through their sapwood, through their xylem towards their leaves. And before that, the summer before, the tree needed its leaves to photosynthesize and convert sunlight to sugar and send all its excess sugar down to its roots so it could pull it back up in the still-warming days of spring, and burst its buds open again. And it's then in the sap's push towards the buds

that we take the sap and convert it to syrup for our own use, and take the entire process for granted.

At the end of the day Glenn approaches me while I'm ogling at the evaporator, "I didn't get a chance to talk to you!" he says.

I tell him I work at Emmons and explain the tapping pattern we followed there. He says he's sure you'll still get leaks if the taps aren't six lateral inches apart. He starts talking about running a vacuum pump at so many hertz, and its effect on vacuum pressure. He asks another sugarer there about his furnace pipe temperature. I nod but I can't keep up with the mechanics. I've never had the head for it.

Standing next to the shiny evaporator, listening to Glenn talk, I feel like an imposter, like I'm not qualified to be there because I know so little.

Then I remember that I do know enough to tell you how much the first drips of sap pinging into your bucket after a long, cold winter taste like uprooted sunshine. The pinging sound hints that spring is not far away. And I can tell you that being a part of the transformation of sap into syrup is gratifying, even cathartic, when you've cut the wood you're burning and can watch the gradients develop and darken over the length of an evening. And I can say when you share the syrup as a gift, it continues to give and becomes even more valuable. I know the maples and the earth have given me a great gift this spring, but I do not know yet how I can repay them.

Industry

May 3rd

Hi: 50 Lo: 40

In the morning I drive south to New Hampshire. If yesterday was a quaint, comfortable New England affair, today is a stupendous showcase. The manicured white and red barns are perched near the top of the hill. There are no maples below the barn, but grassy fields that open the view of lower wooded hills to the west. I park in the corner of one empty field. There are license plates from almost every state you could tap a maple in around the East. Only one plate from Montana.

I'm at Bascom Maple Farms. Bruce and Elizabeth Bascom run the maple farm today, the latest generation in seven generations of Bascom sugarmakers. They've been around since 1853. They have 80,000 taps.

Bascom's doesn't just tap trees, they buy syrup too, in bulk from anyone who'd like to sell it at Bascom's price. They also have a well-stocked store where you can buy anything and everything you might need for the next sugaring season. Their warehouses are cavernous.

There are several lectures held in each time slot at opposite ends of the large, segmented warehouse, used to store drums of syrup and backorders of equipment. The middle room is full of used evaporators and vacuum pumps for sale. Lunch is served at noon. It's free and it's pulled pork sandwiches.

I wander the domed rooms. It's tough to talk to sugar folk here because there are so many and they all seem to have come for information or equipment. I'm there to learn

why they are sugaring, what makes them giddy enough to at times travel hundred of miles on a Sunday at the end of a subpar but intensive sugaring season to plan for next year's season?

I meet some sugarfolk over pulled pork. I sit by a stout, gruff, affable man in his 50s from east-central Massachusetts. I ask him about his season.

“This was one of the strangest sugaring seasons I’ve seen in a long time,” he says. “I made a lot of syrup—five hundred gallons off of a thousand taps on vacuum plus a few hundred taps on gravity. It started flowing ‘bout March fifteenth and stopped middle of April.”

That’s the first I’ve heard of a higher than normal yield. But with maple trees occupying such a wide range of climates from Virginia to Quebec, there will never be a constant.

The man tells me he’s tapped trees his whole life. This year was the latest he’s tapped. Two years ago was the earliest. He’s a fourth generation sugarer, but he doesn’t have trees of his own to tap anymore; his family’s farm has been cut up into small lots.

“I used to have one of the only sugarhouses around, but now there are a bunch of yuppies getting into sugaring. With the new technology, if you get past the expensive start up costs, it pays,” he says this with a hint of malice, as if he should be the one getting the pay off now after a lifetime of working his hands red and numb every spring in the sugarbush.

He continues, “Sugaring’s become an investment. Big time investors from New York City are shoveling money into sugarbushes. There’s a guy from Manhattan who put

millions into one sugarbush. He built a sugarhouse that looks like an estate. Those guys don't mess around in things that don't pay. He'll get a good return."

Will the upstate sugarhouse estate also hold private catered luncheons for the bankers? They must think sugaring will pay for a long time, that sap will be doled out at a steady rate.

A man with tattoos on his biceps and two delinquent-looking teenage sons sits across from us. The sons are mute and give blank stares. The father brings up the topic of the newest 3/16ths tubing. This year, on a sugarbush with a ten percent slope he got 22 inches of vacuum pressure on 250 trees without a vacuum pump.

The men get on the subject of ROs. The man from Massachusetts says he's due for a new RO. He got his eight years ago after a fire burned down his sugar shack and he had to get new equipment. He bought a used RO that must be one of the originals.

The gruff, Massachusetts man launches into his dream. He tells us if he got a new RO, and an evaporator, and a thousand more trees, he could hit that threshold where he could make a living off of sugaring. Of course, he doesn't have the money to do that. And he doesn't know where it's going to come from.

"I used to log full time," he says. "But you can't make a living wage logging with just a skid-steer anymore. Seems you practically need a million dollar chipper to make a living from logs today. I want to make this sugaring work. I guess, at some point, I got to take the risk, buy the equipment and go for it."

It seems like he might do it. Go to the bank, ask for a tremendous loan for sugaring equipment, and be in debt till he makes it. I'm not sure he sees another option.

I see the yuppies and the farmers browsing and buying at Bascom. Some are scratching together the money they made from the sugaring season to buy a bigger evaporator, others are using a brokering, or programming income to buy a brand new RO. Both listen to a University of New Hampshire professor talk about sugaring for the small producer.

One of the first points in his presentation is: happy trees make better sap. Thus, the key to tapping a tree, he says, is never removing more wood with your drill than the tree can replace in the next year.

He's telling everyone to take care of the tree that gives you the sap. It might seem obvious, but most of us have gotten used to not caring for much. We don't care for the apple trees that give us apples or the pigs that give us bacon. We don't care for our parents when they get old. Often, we don't care for ourselves. To care for your trees, and keep them happy—even if it's in self-interest—would almost seem like it's asking a lot of us. Except it's not. It's simply asking us not to take without giving.

The last talk of the day is from Tim Perkins—a tall, neat professor from University of Vermont—who's eager to take from the maple trees. He gives a presentation on behalf of his research team.

Perkins and his research team regularly test the why and how of maple technologies for the benefit of the sugarmaking industry. They've tested how vacuum pressure affects sap yield, and they've noticed that even during prolonged periods during the sugaring season with weather above freezing, sap flow does not stop under vacuum pressure. Flow declines, and sits at a low steady state. The vacuum starts pulling slightly sweet water straight out of the roots, out of the ground, out of a reservoir of sugars the

tree's stored to jumpstart its growth and spread its buds. But being a scientist with a reductionist approach, Perkins and his research team asked a logical question: Was the top of the tree necessary?

Was the top of the tree necessary? Are our mouths necessary to eat our food, and our stomachs necessary to digest it, and our intestines necessary to process it into molecules of nutrition for our bodies? For these are our own organs that are equivalent to the crowns of maple trees, where a miraculous conversion of sunlight to sugar takes place. A conversion that passes on to us through the steps of the food chain, or directly in the form of sap in our buckets.

The researchers tested their hypothesis. They grew row upon row of maple saplings and they cut the top of the tree off when it was four feet tall. They developed a suction cap prototype that hose-clamped right to the top of the two-inch maple trunk. They turned the vacuum on and sucked the sap straight up the trunk from the reservoir in the roots.

The saplings didn't give much sap because they were being sucked dry. The sap they did give didn't have much sugar because it was mainly water that the roots were sucking from the ground. But when they sucked for a season they found each sapling could give enough sap to make 0.073 gallons of syrup. Full-grown maples with wide, splaying crowns give enough sweet sap for 0.4 gallons of syrup in a season. Gravity systems give 0.2 gallons.

And now Perkins moves to numbers to show why chopping the top of the maple off every year is justified.

On a sugarbush with 80 taps per acre (average is 50) and the very best management practices and vacuum pressure you can make 40 gallons of syrup per acre.

And that's where the saplings have the advantage. On one acre of cleared, flat land you can plant 5800 saplings. With thousands of tubing lines you could suck enough sap to make 423 gallons of syrup from that acre—ten times the yield of current Best Management Practices.

Perkins and his research team have a patent on the maple plantation. It's the next logical progression in the march of maple technology. We've already cut out much of the work, why don't we cut out the forest too, and extract sap from a flat field of clones. Flip a switch and voila—there is your sap. Pass it through your RO and you have your concentrate. And finally through your digitized evaporator and you've made syrup without even needing to step outside.

Nanabozho—the god who watered down the sap so we would have to put our own work into making syrup, and would be grateful for what we were given—would not look kindly on our efforts to extract profit from the trees.

I drift to Robin Wall Kimmerer's words,

“His [Nanabozho's] teachings remind us that one half of the truth is that the earth endows us with great gifts, the other half is that the gift is not enough. The responsibility does not lie with the maples alone. The other half belongs to us; we participate in its transformation.”

We still have the choice to be responsible. Our responsibility should never have come to the point of being a choice, it should've simply been our way of life—caring for the gifts that nurture us. But the choices are here—the path's well worn in one direction

across millennia, meandering over smooth roots and a bed of softly trod leaves. And in the other direction? A bulldozer's ripped a path straight and true, it cuts through trees and hillsides in its way, it does not see or listen to its surroundings, but keeps roaring, always with a destination in mind.

Perkins is still talking. He interrupts my reverie when he says that the maples still grow a crown when you chop their trunk each year. They grow a cropped crown with big leaves. The plantation looks like a field of lollipops—a stunted version of Dr. Seuss flora.

A field of saplings could be a lot easier to manage than a hilly, scattering of trees. You could plant in rows, and irrigate the field. You could fertilize. You wouldn't have to worry about making buddy syrup because the saplings don't have buds. It would be easy to control pest outbreaks. The small trees would be more resilient to climate change too.

But then Perkins pauses and moves to the catch,

“With the high cost of suction caps these practices pan out to the same cost as current practices. It all comes down to economics eventually, and right now the saplings don't pay,” he says.

Of course—economics would be the primary motivator of whether or not to plant a lollipop field of clones.

At the end of his talk he answers one of the most frequent questions he gets: Does it kill the tree?

“It doesn't kill the tree if you cut the trunk at the right time,” he clarifies. “There's always going to be some mortality, but if you look at nature, of one million saplings in the forest only a fraction survive anyways. It's always a race to the top.”

It's always a race to the top. It all comes down to economics eventually. A plantation of lollipops. How soon will it be that we forget about the swaying crown, the stomp between trunks over a thin crust of snow, the melodic drip of sap into the buckets? How soon before we commoditize our syrup?

We've already modified everything from potatoes to pigs to fit our needs.

I think of the *Matrix*. Of all the humans on life support in a vast row of cells, all living imaginary lives in a projected world. There's no dignity to living that way.

I've walked through eerie silence down a row of cloned poplars on a tree farm. There's nothing growing in the rows. There's no chorus of birds. The trees are in straight lines for miles. They are all genetic equals made to grow fast so we can cut them for paper.

I could compare it to the feedlot, to square mile upon square mile of GMO soybeans. But it's not like either.

The maples are still in the forest. They can be tapped each spring and they will give sap. If we use the ones we have, they will give enough for everyone to have some on their pancakes or savor a spoonful. We already take, but must we take more? Must we always want more than we have?

I drive off the hill at Bascom Maple Farms after Tim Perkin's talk and head west. I want to get back to a place that's familiar, where trees grow tall and wild. I drive through Vermont, around the south end of Lake Champlain, back into New York. It rains on and off. There's still snow on the ridges of the Adirondacks. The buds haven't broken yet, but they're swelling, they've already sent the sugar up their trunks and are waiting for a few sunny days.

I drive back to the house. We've moved out of the cabin and in with the Devlins. Laurie's cooked chicken mole and Paige's cousins are over. I'm famished. I tell them I'm happy to be home, in this house, among these trees and with all these good people. An industry has formed out there, I tell them, and it wants what every other industry wants, and it will suck the trees dry.

Paddle

May 6th

Hi: 53 Lo: 27

Floodwood Pond, Little Square Pond, Fish Creek, Fish Creek Ponds, Follensby Clear Pond, and a carry of 58 rods to Horseshoe Pond where we paddle to the center of the Horseshoe—the long peninsula dividing the lake—to camp for the night. It's Paige and Adi and I in a canoe with Paige's friend Eloise alongside us in a kayak. Our favorite part is the meander through marshland on Fish Creek—a passage through eskers—the rocky mounds left behind by retreating glaciers—now grown in with white pines, spruce, balsams, hemlock and a few hardwoods. The hardwoods do not yet have leaves.

There are no high points to see from the water. It's water and eskers. We have the right craft to travel in this place. This is my second canoe adventure in the Adirondacks.

The first was the first summer five years ago, when Paige and I set out along the nape of Low's Lake. It rained and was cool and that kept the mosquitoes and black flies at bay.

The first night camping on Low's Lake, we came out into the damp air after a midnight patter had ceased and found the smooth nylon of our rain fly graced with hundreds of silvery moths, their wings like open irises in our flashlights, their long proboscises sipping droplets, their soft bodies absorbing a rising heat.

The second night I built a fire with wet wood and dry birch bark, and a lot of huffing. Paige must have been impressed by my will to start that fire, or by my sense of adventure, or by something indistinct and instinctual rising up in her because when the

rain came, and poured down on the paltry fire, and extinguished it, she pushed me under the boughs of a cedar, and kissed me with moist, hot lips as it rained. I remember it as one of those times when I was so attuned to sensation, to supple texture and cacophonous sound, and yet acutely aware of myself kissing this beautiful woman, and in disbelief that she was kissing me right back with unabashed passion.

After the rain ceased we heard the voice of loons draping the descent of evening with their calls. It was the most mournful, pure sound we'd hear until we heard the wolves, a pack of five or six, raising their voices in greeting as they assembled around our tent last summer.

It's sunny and spring is tumbling forward on this second Adirondack canoe adventure. There's not much for me to worry about out here. I boiled down my birch sap a week ago. I nearly made a gallon of thick black syrup with intense flavor. I brought my birch sap to Emmons for the last week until it stopped flowing.

In two days my dad and stepmom will come, but I don't need to worry about their arrival now.

Today, all we need to consider is this strong wind pushing against us from the northwest as we paddle up Lake Follensby Clear. The waves are whitecapped. We could tip. Mike has told me a true story (Paige wouldn't let her dad tell stories to her at bedtime unless they were "true" stories) of a boy on a canoe trip with the outdoor program at the grade school he taught at in Lake Placid dying when a gust of wind flipped the whole fleet of canoes. He was out of the water and they could see him, but he died from hypothermia all the same. That was late March, and the instructor shouldn't have taken

those boys out at all. We stay close to shore. We have dry clothes in dry bags. It hasn't rained in the last two days; a fire would start easy. I'm not worried.

We reach the carry. We meet some fisherman. We find our spot on the Peninsula jutting out into Horseshoe Lake. The girls' feet are cold from the splash and the wind so I build a fire while they don down coats.

In the scuffle of packing, we've forgotten the tent poles. We build a lean-to instead with the tent and fly and guy lines. The wind lulls in the evening. We walk out the peninsula, through thick grey shrubs with bare stems. It narrows to a point, and the trees thin, and the land thins until it stops. Two drops of land crop up not far offshore. There are White pines here and when I feel the needles of the full-grown pines they're soft, not sharp like Ponderosa or Lodgepole. There's golden light this evening. It makes the pine branches glimmer when they bend in the breeze. We eat our dinner here.

A loon pair in between the two islands. They are together, then apart. Adi's watching them, but she won't swim. She's doesn't realize she knows how to swim. A loon far down one rung of the horseshoe calls to the pair. They respond together with eerie trill.

We hear a slap and see a beaver swimming in earnest just off the point. I saw his handiwork earlier when I wandered inland down the Peninsula and found a clearing with dozens of chopped trees that looked like stakes protruding from the ground. They looked like stakes, not lollipop trees because they were gnawed to a point on the top and they didn't have suction caps on them.

Up the hill from the stakes were big yellow birch trees. They were old and I noticed they had lost their outer coat of paper, like it was a youthful skin, and had only the wrinkled, scaled bark of age underneath.

We stay on the point to watch the sun dip above the curve of the horseshoe. Little Polliwog Pond is in that direction, just over the next mound of esker and glowing white pines. Little Polliwog is where Mike proposed to Laurie, thirty years ago last year. He planned to propose on Horseshoe but there were people camped there and he wanted to share the moment with Laurie alone.

Paige tells Eloise about the adventures we've had in our last few years in Montana. Many adventures, rarely planned more than a few days before we leave, much like this one.

I lay back to stare up at the pines shimmering and swaying. I doze. Though it's cool, the sun, the green, the riffled blue water all warm me. The loons have paddled around the point. They start singing to their brethren, in overlapping chorus, and I can pick out three, now four different calls. Some call, "The moon is white upon the sky!" And other's say, "How soon will you come to me!"

If I strain my ears at times I can hear a truck grumbling on a road in the woods somewhere. But I don't strain; I listen to the voices of the loons.

Tomorrow, I'll wake early, and while the girls sleep, I'll slip into the kayak and slide onto quiet water. The loons will be there, a pair, perhaps the same pair, and they'll let me get close, because I'll stop paddling to drift and gaze. And I'll gaze and drift until they drift off themselves, on their day's journey, down the lake. After breakfast, we'll paddle up the south leg of the horseshoe, carry 70 rods through the swamp to Fish Creek,

and paddle through to Copperas Pond before a long and tiring carry to Whey Pond, a paddle across Whey Pond, a final brief carry through a parking lot to Rollins Pond, and a paddle north back to Floodwood Pond. Twenty-four hours can stretch far.

Great Range

May 13th

Hi: 77 Lo: 44

At a quarter to seven in the growing gray mist of the forest I nearly run into the wide black rump of bear, sidling down the trail in front of me. I'm downwind. He doesn't smell me, and lumbers forward without turning his head. I stop and give him a ten-minute gap before I jog again. I start singing ("Oh What a Beautiful Morning!").

I keep singing ("Oklahoma!") as I move from the mud and moss of the valley up to the ice-covered saddle between Upper and Lower Wolfjaw. I affix spikes to my running shoes here and turn west towards Upper Wolfjaw. Lower Wolfjaw's off the planned route and there's already a long morning in front of me.

At the summit, the spine of the Great Range stretches before me. I can see Tahawus, gathering clouds on the western terminus. Between us are Armstrong, Gothics, Saddleback, Basin, and Haystack. I'll descend off Little Tahawus (Little Marcy) before I reach the end of the ridge and run down to Marcy Dam. Eighteen miles, six peaks, and nine thousand vertical feet of climbing. Winter still has a hold on this high country.

Paige asked me last night what drives me to run such distance. The best answer I could find was freedom, an elemental freedom from moving across snow and ice and rock with only my body—carrying little and observing much. It's a relic of the hunt; an unencumbered passage through space.

Paige is the only one who knows about my attempt when I leave the house at four am. I know the Devlins and my parents would try to dissuade me and I will not be dissuaded.

I tell her I'll head down to the valley and back to the Garden Trailhead near Keene where I started if I'm not on Armstrong by eleven. I'm on Armstrong at nine. The climbs are all steep. White and translucent ice mixes with granite ledges flanked by stunted spruces and balsams.

I careen off of Gothics using a cable to take bounding, backwards steps. The snow deepens in the saddle before the climb up Saddleback. There are no recent snowshoe tracks, and I don't have snowshoes. Any step off the narrow trod path lands my leg in snow up to my waist. I could twist an ankle or break a leg. When fatigue starts to set in and I'm down to one last gel on the climb up to Little Tahawus, vulnerability creeps in.

I let it in, let the uncertainty saturate my body. It's not a loss of control; it's not panic. It's a feeling that I'm alive and human and instead of sitting at home, imagining the run along this ridge over and over, I'm out here doing it, moving through the heart of the high peaks, with just a Camelbak and a pair of shoes. And I know many would think I'm crazy, think I'm irresponsible to do such a thing, (and there are some who I think crazy and irresponsible for what they do) but I'm experiencing life in one of the ways I know how to experience it best.

There's always the possibility of failing. But I do need to try before I fail. And when I fail there are people there to catch me, and pull me up, and tell me they love me all the same. And when this happens, and it has, does, and will happen, I may in the end deem it as success, or, may not put a judgment on it at all, and simply call it—life.

Paige meets me on the trail two miles up from Marcy Dam. It's almost one and she expected me a half hour ago. She's out of breath when she jumps into my arms. At the Dam I get a hero's welcome from the Devlins and my parents. I don't deserve a hero's welcome for running the Great Range in a morning, there are feats that deserve more praise, but I get it all the same. My dad's proud, he knows that not one month ago I was too fatigued to run a mile behind the Devlin's house. He knows I've struggled this spring. He knows I'm looking up now; I'm not sitting still and in a few days, I'll start the journey home with more than maple syrup in the backseat.

On our walk back to the trailhead, he asks me when I'm going to ask Paige to marry me. I tell him, this year, sometime in the fall.

The buds have begun to break on the poplars and aspen. The maples will open in a few days, then the beech and the birch. The green accents in the forest are new and nurturing. They speak of growth to come. I tell my dad I know I'll miss this place. It'll be good to go home, but I'll miss this place.

Leaving

May 16th

Hi: 79 Lo: 61

We leave driving East and follow the Ausable in its tumble through the notch, follow the burgeon of spring, and cross Lake Champlain on the ferry. The Adirondacks remain on the edge of our vision, an island of white to the west.

Paige will come tomorrow. I'm with my dad and stepmom. We stay in a B & B in an area of Burlington I would call "Suburban Heights"—one-acre lots of lawn, big plain houses, and views of the lake.

There are people passing quickly from place to place here. It's a city. We live in a city in Montana too. I hope it will still be familiar. I hope it will feel like home.

Paige and I have been caught in transitory space for the last week. Our parents have parried stories that explain their experiences of home. Paige has noticed they're much more eager to tell than to listen. When we have a chance to pipe in a story, we tell stories of this place, the Adirondacks, not Montana. It's our present place, our place of dwelling, eating, and exploring.

My dad tells me a great joy of his in recent years has been celebrating the qualities of many places. He's loved the enclosed quiet of the forests here. I know as I travel west, the open spaces will at first seem loud—a whistling ruckus—until I accept their expanse as a broad stillness, an open sky of potential.

I've learned things in my last days here that make me want to stay. Walking along the western shores of Lake Placid with both families, Mike taught me more about the

forest. Balsam firs have hundreds of bubbles on the exterior of their bark. If you pierce these bubbles with a knife, or your fingernail, a sticky substance will ooze out of them. Balsam pitch is remarkably strong and Mike claims (and I love to believe his “true” stories now) that his uncle once used this sap to glue and seal a crack in his canoe.

Canoeing up the Chub River a day later and watching Mike carry a canoe on his shoulders over a muddy carry, I wanted to stay, become an apprentice of this place and this woods life while I still could. There’s a teacher here I can learn from. He doesn’t know how to slow down—and that’s what worries me—but he knows how to inquire, how to ask all the questions, and work to find the answers.

There are good people here too. People whose undersides I might never know. When I took my parents by Emmons before we left, they bought a gallon of syrup and left \$50 on the counter. Pete walked out of his house behind the sap house. He had been setting traps for red squirrels. I introduced my parents. He saw the syrup in hand and insisted they take back their money.

“Your son did good work here,” he said.

For a brief moment, I didn’t want to leave Emmons. The maple taps needed to be pulled now and Pete would be out there tomorrow on Aaron’s orders, wandering through the woods and yanking taps with only his black lab for company. I know he might prefer it that way, but I think too that he might of liked teaching Sara and me a thing or two about the place he roamed while we were there.

While we were cleaning dishes in the Devlin’s kitchen a few nights ago, my dad mentioned I seemed to be more of a man. I was filling in my tall frame.

I said, “Good.”

And he said, “Is it good?”

And I knew that he meant that I should question whether it was good, and if it was, then I should believe it as good, and carry it with me, and embrace it as a change, and realize that I could not go back to the way things were in my boyhood.

We’ll be driving North out of the country tomorrow. Then we’ll turn west towards home. We’ll be home in a week; a quick transition. They always seem to arrive quicker than I’d like.

Passage

May 17th-24th

We pass with the wave of a kind, gentle Quebecois hand into Canada. We drive north and west, skirting Montreal. In the late afternoon, we stop to tour a Quebec sugarhouse.

They call them *sucrieries* here. This place is called *Sucrierie de Montagne*—Candy Mountain. Most sugarhouses you can visit in Quebec are marketing the romanticized vision of sugaring season. You ride over the snow on a sleigh pulled by draft horses. All the maples have buckets hanging from their spiles. You arrive at the steaming sugarhouse, and after an explanation of the process of turning sap into syrup in front of the wood-fired evaporator, you hurry into the long log lodge with a great roaring hearth, and a four course meal with piping maple syrup for \$29.

We forego the sleigh ride and the piping meal to walk the forest. The character of the maple-beech-birch forest has changed. I've gotten used to knowing the trees by the texture of their bark. Now, the maples stretch out with brilliant golden crowns. The beech blossoms from a dull, grey trunk to a narrow, green beauty. The white and yellow birch blend in more and are even ordinary when they are surrounded by a blush of color and no longer defined by their papery bark. Besides maple saplings, the undergrowth has been cut out of the forest. But scattered close to the earth are the narrow, iris-white petals of the trillium. I have seen trilliums in Montana in the spring—they can surprise and delight in their white or pink or red exuberance in the dark and damp cedar woods. But here they are in bouquets, dabs of white across a floor of decaying leaves.

We pass into Ontario and pay \$42 to camp in a Provincial Park for the night. Adi's been grumbling for two hours in her cramped seat in the back. The Subaru is taking more west than it took east. The Devlins have gifted a canoe and kayak to us. Mike would like us to report back on the views from the rivers in Montana.

The next day, somewhere between Sudbury and Sault St. Marie, along the northern shores of Lake Huron, we lose the blush of green we'd found. At Sault St. Marie, the eastern boundary of Michigan's Upper Peninsula, we turn north to drive around Lake Superior.

Not far up the lake, we stop to camp at Pancake Bay. We pay \$42 again, but our campsite is steps away from a broad curving beach. We're lucky the campground's open. Two weeks ago, they still had four feet of snow piled beneath the trees.

We're in a historic place. Eight kilometers east of here the Edmund Fitzgerald sunk in 75-knot winds and 35-foot waves on November 10, 1975. The gales of November got the best of the 218-meter long iron-ore carrier. Gordon Lightfoot's lyrical remembrance of the wreck was among the first songs I learned on the guitar—"The legend lives on from the Chippewa on down of the big lake they call 'Gitche Gumee'. The lake it is said never gives up her dead when the skies of November turn gloomy."

The lake's a glassy ether when we sit on the beach and stare out at it with a pot of spaghetti to share between us. Sky and water blend in soft hues of grey at the horizon line. If I could learn how to walk across water this would be the time to do it, when there was not a lap of resistance for miles and the water and sky were enmeshed such that I could teach myself to hover in a space that was neither liquid or air, nor earth, but a congregation of molecules caught between that I knew could support my weight.

We lounge, in our down coats with Adi curled between us.

I'm thinking about the time I spent waiting for the sap to flow. What did I do with all that time? I skied, I split wood, I met family that will be mine, I understood more layers of love, I watched winter leave an impression on people who had forgotten its magic ferocity, and I felt an inkling of what it meant to live with respect for the elements, and the trees, and the shift of the seasons, and in doing so, acknowledged what each season can give to you—for they all have much to give.

And when the sap flowed and I made only five gallons of syrup by my own work was I disappointed? Elated? Neither—I could have come home with fifty gallons or none at all and deemed it a success.

In the morning, I go for a run on the east side of the highway to a rocky knob where they've built an interpretive lookout for the Edmund Fitzgerald. There are hills east and north of me rising in great undulations away from the lake. More hills than I expected. There are some green saplings poking from the earth, but the carpet of leaves on the forest floor are matted and blanched like they have just been released from a long freeze.

We continue north and stop at a bay floating with icebergs. Chunks of ice clutter the shorelines. The winter was fierce here, it was likely fiercer than the Adirondack winter. There are always places where it is worse; it's why I hesitate before I complain.

Nipigon is our furthest point north. We stop for gas. There's a bay of solid, opaque ice with wind-sculpted snow pushing onto the beach. There are forests of aspen but their buds have not swollen yet. The seagulls (Herring Gulls) are back. I wonder how

far south they were pushed this year when there was hardly a speck of open water on the Great Lakes? I wonder how many perished if they didn't fly south?

We curve south under low clouds through Thunder Bay, an industrial city belching steam and smoke on the lake's edge. We drive towards Minnesota, wanting to return to a place where spring has come and gas is cheaper.

The man at the border station is not kind or gentle. He asks us why we have so much stuffed in our car. We say we've been in New York maple sugaring for four months. He asks why we've been in Canada. We say we wanted to take a northern route home and see new places. He asks where we're staying for the night. We say we're camping, we can't remember what the place is called, but it's a state park just up the road. We checked and it's open.

He says it's awfully cold for camping, and the state park is called Judge Clarence R. Magney State Park, and tells us to pull off the road, and go wait inside the border patrol station with the dog while they take a look in our car.

We go inside and sit in the gray chairs. There's no one passing through the station, but there are three border patrol agents tap, tapping away behind a high curving desk. An older man with an ounce of kindness wriggling through his hard shell asks us more questions. What do we do in Missoula? I'm a student, I say. I'm a teacher, Paige says. We'll have different jobs this summer, but neither of us wants to explain.

And what were you doing in New York again? We were maple sugaring and visiting my parents, Paige says with a hard lip. If she had hackles they would be rising.

And why do you have so much in the car? We brought everything we'd need to live for four months, Paige quips in a pointed tone derived straight from her mother.

I tell the man we have a lot of camping gear because we did some camping in New York and are camping on the way home. I know they can keep us here for as long as they want. I know they can pull everything out of the car, and empty every bag and not say sorry we made a mistake when they don't find an ounce of weed, a bottle of booze, or a handgun. So I try to be obedient and courteous even though I want to tell them,

“Why the hell aren't you letting us back into our own damn country!”

The man says to wait, he's going to look in our car. Paige starts muttering about how she sure feels welcome back in her country, and I tell her just to cool down, we'll get through.

The man comes back,

“You sure do have a lot of camping gear. You're good to go. Stay warm.”

We drive off.

“Let's turn around and go back to Canada.” Paige says.

We both feel violated. We've been profiled. We fit the description of “young looking transients traveling fast with a bunch of crap in their car.” Or “people who don't have a permanent job and can't decide on a home.” A career path and a steady home define stability in the country we've entered. Without a firm sense of one or the other or both you might be instable. Instability leads to reckless, risky behavior. So we must be questioned.

I want to go back to the border patrol station and ask the agent who pulled us aside why he's chosen this life for himself. Why he's chosen a job in which he feels required to profile and interrogate? If he says he's chosen it to guarantee the safety of American citizens, I'd tell them I feel less safe, because he's stoking the frustration and

anger of citizens and non-citizens alike. And I'd tell him to visit the Quebecois man in Vermont to learn how to make someone feel welcome. And if he says he does it for the power or the money, I would be silent because I don't know how to convince someone who covets such things.

But we only hurl our protestations at each other. We find Judge Clarence R. Magney State Park. There are two campers there and no tents set up. There's no camp host and I tell Paige I'm not going to fill out the self-pay envelope. It's state-run not fed-run, but authority has already rubbed me the wrong way today.

It rains through the night. There is no green here, just mud. In the morning, a freezing pea soup fog has crept in from the lake. We drive to the charming lakeside town of Grand Marais—an artists' colony, a place I would live were I stranded in the Midwest.

We plan our paddle through the Boundary Waters in Grand Marais. I've never seen a map of land with so much water on it. We talk to a big-boned woman at the Ranger Station who tells us many of the lakes on the northern and eastern boundaries of the Waters are frozen over. That narrows our choices. We opt for a southern, two-night route.

We drive inland and lose the fog. We put in on the Little Isabella River and paddle north.

There's a lot of water here. In the Adirondacks there were many lakes, but they were distinct and bounded by eskers. Here, the land is flatter, and the water fans out. Lakes flow into rivers lined by marsh, and rivers flow into other lakes and there are only narrow strips of land to divide all the water. There are birch and cedars and spruce and

firs here, but they're all smaller than in the Adirondacks. Their season of sun and growth must be shorter.

It's too cold for bugs, but the peepers seem to call from the marsh off every bend. I've never heard peepers in the middle of the day.

The sun is out and shining and it must be near sixty degrees. A storm builds through the afternoon and evening and I remember the grandeur of summer storms.

We camp beside the Isabella. Rain comes just before dark, thunder and lightning follow. The night is as dark as pitch; the clouds have wrapped us in blankets.

Wind blows in the morning. We carry around two rapids. Our canoe's monstrous. It's not the fiberglass lake canoe we used in the Adirondacks, but a burly, composite Mad River Canoe meant for running rivers. There's a patched crack down one side in the middle where Mike wrapped it around a rock once (he claims his girlfriend at the time, who was in the bow, wasn't following his directions).

We paddle up the eastern shore of Bald Eagle Lake into a brisk wind. There's a campsite lake (all the campsites are marked and have fire grates and pit toilets here) on a spit of land jutting into the lake. There's a short wall of cedars to protect us from the wind. We set up our tent at noon and do nothing for the rest of the day.

A seagull lands on a submerged rock just off the point. It brays into the wind. Lake swells break across its orange-webbed feet, but it stands firm and brays.

We climb into our sleeping bags and spend an afternoon listening. We listen to the undulating, vibrating roar of the wind, the waves slapping on the shoreline, the seagull trying to hear its own voice above the wind. We bring our faces close enough to each other to see the dimpled pores on the surface of the skin. Adi sleeps at our feet. We

doze and lay our warm skin against each other. We daydream: me about abundant summer gardens, and she about whether or not to keep her last name. The wind crescendos, then lapses. It's the laziest afternoon we've spent in a long time.

I think about the deep chill that has just released these waters. I think about how forbidding it would be to travel these frozen pathways by ski, to spend most of your metered energy for the day trying to stay warm. A winter in a place like this requires respect. A winter in a place like this demands patience. A winter in a place like this can define the place and the person alike, breeding a stubborn resilience under the freeze. The buds will still break and the moss will grow thick even if the grip of ice and snow holds until June.

The next day, we finish our canoe with a mile long carry. I heave the canoe on my shoulders and grunt and cringe under its weight. Paige ferries the gear. We're recharged, ready to push west.

We cut across the girth of Minnesota. We cross the Mississippi River—a narrow creek you could throw a stone across. Spring emerges in a flourish we haven't seen since Ontario. At the same time, the trees thin.

Thirty miles from North Dakota we stop at Buffalo Rapids State Park. We are on the border of prairie, in a nearly extinct ecological transition zone called oak savanna. Most of the oak savanna has been cleared for farmland, but at one time, the elms, black ash, oaks, box elder and basswood provided critical windbreaks on the edges of the roaring grassland. There's still a strip here, protected by the State Park and the Nature Conservancy.

The basswood is a tree I have never seen. They are massive, more imposing than the cottonwood. The furrows in their bark are like scoured canyons, and the ridges rising above them are as stout and square as stone buttresses.

We walk west away from the trees that hug the river, towards the sun falling into the prairie. It's been a long time since I've seen the sun merge with the flat, hazy earth. In Botswana, I spent three weeks in the Kalahari Desert, and would climb the rise behind my tent to watch the golden orb touch the tips of the Acacia bushes and simmer onto the desert floor. I'd consider then as I consider now how many thousands of generations had watched the sun from both places, enchanted and absorbed by the light sinking from the planet, thinking about who or what controls its arc, and reflecting on the passage of the day, which started with the sun's bold rise, and ended with its soft fall.

The next day we drive the flat farmland of North Dakota. I don't drive faster than 65 with the prairie winds battering the boats on the roof. By late afternoon, there are triangular mounds— like oversized burial mounds—poking from the earth. Soon there are buttes, draws, and canyons. Then small pines, junipers and sage as we pass through Teddy Roosevelt National Park near the Montana border. It's drier, but I imagine this land to hold more life than the monocultured flat land behind us.

We enter Montana. In Glendive it's green. The temperature's climbed to 89 degrees and we can tell it gets hot here in the summer.

We camp in a grove of cottonwoods by the Big Horn River. The clouds have built all afternoon, and I've been marveling at the size of them. We cook a portabella mushroom in birch syrup. Half a spoonful of the black, bittersweet syrup brings me back to that final boil. Two days and one night on slow simmer in the sugarhouse followed by

an evening in the Devlin's kitchen. The finished syrup was so thick, it took two hours to get through the filters.

It's too warm to sleep in our sleeping bags, and we open the tent to stick our heads out and breathe the warm wind tossing the cottonwoods. We'll be home tomorrow.

In the middle of morning, we see our first glimmer of white since we left the island of the Adirondacks. It's the glaciated Beartooth plateau, a thick addendum to the earth's crust. After the Beartooths, it's the Crazy Mountains to the north, the Absarokas to the south, and then the Bridgers just in front of us as we pass Bozeman. Next come the Tobacco Roots, the Pintlers, the Flint Creek Range, the Sapphires, and finally, as we emerge from Hellgate Canyon, we can see the snow covered Bitterroots to our south, and the wild Rattlesnakes to our north. We are home.

Home

May 25th

The dandelions are two feet tall in our backyard and they're ready to set their seed with the next brisk wind. I spend my first full day home picking seed heads by hand before mowing the lawn.

I take a break to sit in my shack—my writer's shack. Even in this small, insulated space I can hear the drone of cars a block away. There is no Algonquin or Marcy, rising unblemished outside my window. The only maple is the imported Norway maple in our neighbor's yard. Here, I'm worried about mowing the lawn instead of chopping wood for next winter, and I can't step out the front door for a walk in the woods.

But I am ready to be back in Missoula. I'm ready to begin tapping away in the shack everyday to form memories into meaning. I'll gaze outside and watch Adi be tormented by the squirrels taunting her from the top of the apricot tree, and I'll wonder if she remembers the searing pain of the porcupine quills.

I'll write and I'll realize I have a story to tell: of love, of winter, of sap, of syrup, of woods, of mountains, of affection, and of growth.

The last time I saw Sara, I asked her why a local Saranac Lake bluegrass band had a track named "Missoula, Montana." She said,

"That's the place everyone here wants to live someday. It's the western town we dream about."

We all want to be in a place or a time that we're not. We want something to leap out from the earth, from the trees, from the sky, and grab us and shake us, and tell us,

“This is what you are meant to do right now!”

But a life’s not lived in one place or one time, it’s not measured by the cold of one winter, or the flowing sap of one spring.

What I remember is not when the sap flowed, or how long it took to flow, but that it did flow, in dripping measure, into my buckets. It was slightly sweet, and I learned to distill it, to make it into syrup so I could savor it, and remember it again long after the gift of the maples had stopped dripping.

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