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Preface

Hold out your hands and let me lay upon them a sheaf of freshly picked sweetgrass, loose and flowing, like newly washed hair. Golden green and glossy above, the stems are banded with purple and white where they meet the ground. Hold the bundle up to your nose. Find the fragrance of honeyed vanilla over the scent of river water and black earth and you understand its scientific name: *Hierochloe odorata*, meaning the fragrant, holy grass. In our language it is called *wiingaashk*, the sweet-smelling hair of Mother Earth. Breathe it in and you start to remember things you didn't know you'd forgotten.

A sheaf of sweetgrass, bound at the end and divided into thirds, is ready to braid. In braiding sweetgrass—so that it is smooth, glossy, and worthy of the gift—a certain amount of tension is needed. As any little girl with tight braids will tell you, you have to pull a bit. Of course you can do it yourself—by tying one end to a chair, or by holding it in your teeth and braiding backward away from yourself—but the sweetest way is to have someone else hold the end so that you pull gently against each other, all the while leaning in, head to head, chatting and laughing, watching each other's hands, one holding steady while the other shifts the slim bundles over one another, each in its turn. Linked by sweetgrass, there is reciprocity between you, linked by sweetgrass, the holder as vital as the braider. The braid becomes finer and thinner as you near the end, until you're braiding individual blades of grass, and then you tie it off.

Will you hold the end of the bundle while I braid? Hands joined

by grass, can we bend our heads together and make a braid to honor the earth? And then I'll hold it for you, while you braid, too.

I could hand you a braid of sweetgrass, as thick and shining as the plait that hung down my grandmother's back. But it is not mine to give, nor yours to take. *Wiingaashk* belongs to herself. So I offer, in its place, a braid of stories meant to heal our relationship with the world. This braid is woven from three strands: indigenous ways of knowing, scientific knowledge, and the story of an Anishinabekwe scientist trying to bring them together in service to what matters most. It is an intertwining of science, spirit, and story—old stories and new ones that can be medicine for our broken relationship with earth, a pharmacopoeia of healing stories that allow us to imagine a different relationship, in which people and land are good medicine for each other.

BRAIDING  SWEETGRASS

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Planting Sweetgrass

⌋ Sweetgrass is best planted not by seed, but by putting roots directly in the ground. Thus the plant is passed from hand to hand across years and generations. Its favored habitat is sunny, well-watered meadows. It thrives along disturbed edges.

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SKYWOMAN FALLING

In winter, when the green earth lies resting beneath a blanket of snow, this is the time for storytelling. The storytellers begin by calling upon those who came before who passed the stories down to us, for we are only messengers.

In the beginning there was the Skyworld.

She fell like a maple seed, pirouetting on an autumn breeze.* A column of light streamed from a hole in the Skyworld, marking her path where only darkness had been before. It took her a long time to fall. In fear, or maybe hope, she clutched a bundle tightly in her hand.

Hurling downward, she saw only dark water below. But in that emptiness there were many eyes gazing up at the sudden shaft of light. They saw there a small object, a mere dust mote in the beam. As it grew closer, they could see that it was a woman, arms outstretched, long black hair billowing behind as she spiraled toward them.

The geese nodded at one another and rose together from the water in a wave of goose music. She felt the beat of their wings as they flew beneath to break her fall. Far from the only home she'd ever known, she caught her breath at the warm embrace of soft feathers as they gently carried her downward. And so it began.

The geese could not hold the woman above the water for much longer, so they called a council to decide what to do. Resting on their wings, she saw them all gather: loons, otters, swans, beavers, fish of all kinds. A great turtle floated in their midst and offered his back for her

* Adapted from oral tradition and Shenandoah and George, 1988.

to rest upon. Gratefully, she stepped from the goose wings onto the dome of his shell. The others understood that she needed land for her home and discussed how they might serve her need. The deep divers among them had heard of mud at the bottom of the water and agreed to go find some.

Loon dove first, but the distance was too far and after a long while he surfaced with nothing to show for his efforts. One by one, the other animals offered to help—Otter, Beaver, Sturgeon—but the depth, the darkness, and the pressures were too great for even the strongest of swimmers. They returned gasping for air with their heads ringing. Some did not return at all. Soon only little Muskrat was left, the weakest diver of all. He volunteered to go while the others looked on doubtfully. His small legs flailed as he worked his way downward and he was gone a very long time.

They waited and waited for him to return, fearing the worst for their relative, and, before long, a stream of bubbles rose with the small, limp body of the muskrat. He had given his life to aid this helpless human. But then the others noticed that his paw was tightly clenched and, when they opened it, there was a small handful of mud. Turtle said, “Here, put it on my back and I will hold it.”

Skywoman bent and spread the mud with her hands across the shell of the turtle. Moved by the extraordinary gifts of the animals, she sang in thanksgiving and then began to dance, her feet caressing the earth. The land grew and grew as she danced her thanks, from the dab of mud on Turtle’s back until the whole earth was made. Not by Skywoman alone, but from the alchemy of all the animals’ gifts coupled with her deep gratitude. Together they formed what we know today as Turtle Island, our home.

Like any good guest, Skywoman had not come empty-handed. The bundle was still clutched in her hand. When she toppled from the hole in the Skyworld she had reached out to grab onto the Tree of Life that grew there. In her grasp were branches—fruits and seeds of all kinds of plants. These she scattered onto the new ground and carefully tended each one until the world turned from brown to green.

Sunlight streamed through the hole from the Skyworld, allowing the seeds to flourish. Wild grasses, flowers, trees, and medicines spread everywhere. And now that the animals, too, had plenty to eat, many came to live with her on Turtle Island.

Our stories say that of all the plants, *wiingaashk*, or sweetgrass, was the very first to grow on the earth, its fragrance a sweet memory of Skywoman's hand. Accordingly, it is honored as one of the four sacred plants of my people. Breathe in its scent and you start to remember things you didn't know you'd forgotten. Our elders say that ceremonies are the way we "remember to remember," and so sweetgrass is a powerful ceremonial plant cherished by many indigenous nations. It is also used to make beautiful baskets. Both medicine and a relative, its value is both material and spiritual.

There is such tenderness in braiding the hair of someone you love. Kindness and something more flow between the braider and the braided, the two connected by the cord of the plait. *Wiingaashk* waves in strands, long and shining like a woman's freshly washed hair. And so we say it is the flowing hair of Mother Earth. When we braid sweetgrass, we are braiding the hair of Mother Earth, showing her our loving attention, our care for her beauty and well-being, in gratitude for all she has given us. Children hearing the Skywoman story from birth know in their bones the responsibility that flows between humans and the earth.

The story of Skywoman's journey is so rich and glittering it feels to me like a deep bowl of celestial blue from which I could drink again and again. It holds our beliefs, our history, our relationships. Looking into that starry bowl, I see images swirling so fluidly that the past and the present become as one. Images of Skywoman speak not just of where we came from, but also of how we can go forward.

I have Bruce King's portrait of Skywoman, *Moment in Flight*, hanging in my lab. Floating to earth with her handful of seeds and flowers, she

looks down on my microscopes and data loggers. It might seem an odd juxtaposition, but to me she belongs there. As a writer, a scientist, and a carrier of Skywoman's story, I sit at the feet of my elder teachers listening for their songs.

On Mondays, Wednesdays, and Fridays at 9:35 a.m., I am usually in a lecture hall at the university, expounding about botany and ecology—trying, in short, to explain to my students how Skywoman's gardens, known by some as “global ecosystems,” function. One otherwise unremarkable morning I gave the students in my General Ecology class a survey. Among other things, they were asked to rate their understanding of the negative interactions between humans and the environment. Nearly every one of the two hundred students said confidently that humans and nature are a bad mix. These were third-year students who had selected a career in environmental protection, so the response was, in a way, not very surprising. They were well schooled in the mechanics of climate change, toxins in the land and water, and the crisis of habitat loss. Later in the survey, they were asked to rate their knowledge of positive interactions between people and land. The median response was “none.”

I was stunned. How is it possible that in twenty years of education they cannot think of any beneficial relationships between people and the environment? Perhaps the negative examples they see every day—brownfields, factory farms, suburban sprawl—truncated their ability to see some good between humans and the earth. As the land becomes impoverished, so too does the scope of their vision. When we talked about this after class, I realized that they could not even imagine what beneficial relations between their species and others might look like. How can we begin to move toward ecological and cultural sustainability if we cannot even imagine what the path feels like? If we can't imagine the generosity of geese? These students were not raised on the story of Skywoman.

On one side of the world were people whose relationship with the living world was shaped by Skywoman, who created a garden for the

well-being of all. On the other side was another woman with a garden and a tree. But for tasting its fruit, she was banished from the garden and the gates clanged shut behind her. That mother of men was made to wander in the wilderness and earn her bread by the sweat of her brow, not by filling her mouth with the sweet juicy fruits that bend the branches low. In order to eat, she was instructed to subdue the wilderness into which she was cast.

Same species, same earth, different stories. Like Creation stories everywhere, cosmologies are a source of identity and orientation to the world. They tell us who we are. We are inevitably shaped by them no matter how distant they may be from our consciousness. One story leads to the generous embrace of the living world, the other to banishment. One woman is our ancestral gardener, a cocreator of the good green world that would be the home of her descendants. The other was an exile, just passing through an alien world on a rough road to her real home in heaven.

And then they met—the offspring of Skywoman and the children of Eve—and the land around us bears the scars of that meeting, the echoes of our stories. They say that hell hath no fury like a woman scorned, and I can only imagine the conversation between Eve and Skywoman: “Sister, you got the short end of the stick . . .”

The Skywoman story, shared by the original peoples throughout the Great Lakes, is a constant star in the constellation of teachings we call the Original Instructions. These are not “instructions” like commandments, though, or rules; rather, they are like a compass: they provide an orientation but not a map. The work of living is creating that map for yourself. How to follow the Original Instructions will be different for each of us and different for every era.

In their time, Skywoman’s first people lived by their understanding of the Original Instructions, with ethical prescriptions for respectful hunting, family life, ceremonies that made sense for their world. Those measures for caring might not seem to fit in today’s urban world, where “green” means an advertising slogan, not a meadow. The

buffalo are gone and the world has moved on. I can't return salmon to the river, and my neighbors would raise the alarm if I set fire to my yard to produce pasture for elk.

The earth was new then, when it welcomed the first human. It's old now, and some suspect that we have worn out our welcome by casting the Original Instructions aside. From the very beginning of the world, the other species were a lifeboat for the people. Now, we must be theirs. But the stories that might guide us, if they are told at all, grow dim in the memory. What meaning would they have today? How can we translate from the stories at the world's beginning to this hour so much closer to its end? The landscape has changed, but the story remains. And as I turn it over again and again, Skywoman seems to look me in the eye and ask, in return for this gift of a world on Turtle's back, what will I give in return?

It is good to remember that the original woman was herself an immigrant. She fell a long way from her home in the Skyworld, leaving behind all who knew her and who held her dear. She could never go back. Since 1492, most here are immigrants as well, perhaps arriving on Ellis Island without even knowing that Turtle Island rested beneath their feet. Some of my ancestors are Skywoman's people, and I belong to them. Some of my ancestors were the newer kind of immigrants, too: a French fur trader, an Irish carpenter, a Welsh farmer. And here we all are, on Turtle Island, trying to make a home. Their stories, of arrivals with empty pockets and nothing but hope, resonate with Skywoman's. She came here with nothing but a handful of seeds and the slimmest of instructions to "use your gifts and dreams for good," the same instructions we all carry. She accepted the gifts from the other beings with open hands and used them honorably. She shared the gifts she brought from Skyworld as she set herself about the business of flourishing, of making a home.

Perhaps the Skywoman story endures because we too are always falling. Our lives, both personal and collective, share her trajectory. Whether we jump or are pushed, or the edge of the known world just crumbles at our feet, we fall, spinning into someplace new and

unexpected. Despite our fears of falling, the gifts of the world stand by to catch us.

As we consider these instructions, it is also good to recall that, when Skywoman arrived here, she did not come alone. She was pregnant. Knowing her grandchildren would inherit the world she left behind, she did not work for flourishing in her time only. It was through her actions of reciprocity, the give and take with the land, that the original immigrant became indigenous. For all of us, becoming indigenous to a place means living as if your children's future mattered, to take care of the land as if our lives, both material and spiritual, depended on it.

In the public arena, I've heard the Skywoman story told as a bauble of colorful "folklore." But, even when it is misunderstood, there is power in the telling. Most of my students have never heard the origin story of this land where they were born, but when I tell them, something begins to kindle behind their eyes. Can they, can we all, understand the Skywoman story not as an artifact from the past but as instructions for the future? Can a nation of immigrants once again follow her example to become native, to make a home?

Look at the legacy of poor Eve's exile from Eden: the land shows the bruises of an abusive relationship. It's not just land that is broken, but more importantly, our relationship to land. As Gary Nabhan has written, we can't meaningfully proceed with healing, with restoration, without "re-story-ation." In other words, our relationship with land cannot heal until we hear its stories. But who will tell them?

In the Western tradition there is a recognized hierarchy of beings, with, of course, the human being on top—the pinnacle of evolution, the darling of Creation—and the plants at the bottom. But in Native ways of knowing, human people are often referred to as "the younger brothers of Creation." We say that humans have the least experience with how to live and thus the most to learn—we must look to our teachers among the other species for guidance. Their wisdom is apparent in the way that they live. They teach us by example. They've been on the earth far longer than we have been, and have had time to figure things out. They live both above and below ground, joining Skyworld

to the earth. Plants know how to make food and medicine from light and water, and then they give it away.

I like to imagine that when Skywoman scattered her handful of seeds across Turtle Island, she was sowing sustenance for the body and also for the mind, emotion, and spirit: she was leaving us teachers. The plants can tell us her story; we need to learn to listen.

THE COUNCIL OF PECANS

Heat waves shimmer above the grasses, the air heavy and white and ringing with the buzz of cicadas. They've been shoeless all summer long, but even so the dry September stubble of 1895 pricks their feet as they trot across the sunburned prairie, lifting their heels like grass dancers. Just young willow whips in faded dungarees and nothing else, their ribs showing beneath narrow brown chests as they run. They veer off toward the shady grove where the grass is soft and cool underfoot, flopping in the tall grass with the loose-limbed abandon of boys. They rest for a few moments in the shade and then spring to their feet, palming grasshoppers for bait.

The fishing poles are right where they left them, leaning up against an old cottonwood. They hook the grasshoppers through the back and throw out a line while the silt of the creek bottom oozes up cool between their toes. But the water hardly moves in the paltry channel left by drought. Nothing's biting but a few mosquitoes. After a bit, the prospect of a fish dinner seem as thin as their bellies, beneath faded denim pants held up with twine. Looks like nothing but biscuits and redeye gravy for supper tonight. Again. They hate to go home empty-handed and disappoint Mama, but even a dry biscuit fills the belly.

The land here, along the Canadian River, smack in the middle of Indian Territory, is a rolling savanna of grass with groves of trees in the bottomlands. Much of it has never been plow broke, as no one has a plow. The boys follow the stream from grove to grove back up toward the home place on the allotment, hoping for a deep pool somewhere,

finding nothing. Until one boy stubs his toe on something hard and round hidden in the long grass.

There's one and then another, and then another—so many he can hardly walk. He takes up a hard green ball from the ground and whips it through the trees at his brother like a fastball as he yells, "*Piganeġ!* Let's bring 'em home!" The nuts have just begun to ripen and fall and blanket the grass. The boys fill their pockets in no time and then pile up a great heap more. Pecans are good eating but hard to carry, like trying to carry a bushel of tennis balls: the more you pick up, the more end up on the ground. They hate to go home empty-handed, and Mama would be glad for these—but you can't carry more than a handful . . .

The heat eases a little as the sun sinks low and evening air settles in the bottomland, cool enough for them to run home for supper. Mama hollers for them and the boys come running, their skinny legs pumping and their underpants flashing white in the fading light. It looks like they're each carrying a big forked log, hung like a yoke over their shoulders. They throw them down at her feet with grins of triumph: two pairs of worn-out pants, tied shut with twine at the ankles and bulging with nuts.

One of those skinny little boys was my grandpa, hungry enough to gather up food whenever he found it, living in a shanty on the Oklahoma prairie when it was still "Indian Territory," just before it all blew away. As unpredictable as life may be, we have even less control over the stories they tell about us after we're gone. He'd laugh so hard to hear that his great-grandchildren know him not as a decorated World War I veteran, not as a skilled mechanic for newfangled automobiles, but as a barefoot boy on the reservation running home in his underwear with his pants stuffed with pecans.

The word *pecan*—the fruit of the tree known as the pecan hickory (*Carya illinoensis*)—comes to English from indigenous languages. *Pigan* is a nut, any nut. The hickories, black walnuts, and butternuts of our northern homelands have their own specific names. But those trees, like the homelands, were lost to my people. Our lands around

Lake Michigan were wanted by settlers, so in long lines, surrounded by soldiers, we were marched at gunpoint along what became known as the Trail of Death. They took us to a new place, far from our lakes and forests. But someone wanted that land too, so the bedrolls were packed again, thinner this time. In the span of a single generation my ancestors were “removed” three times—Wisconsin to Kansas, points in between, and then to Oklahoma. I wonder if they looked back for a last glimpse of the lakes, glimmering like a mirage. Did they touch the trees in remembrance as they became fewer and fewer, until there was only grass?

So much was scattered and left along that trail. Graves of half the people. Language. Knowledge. Names. My great-grandmother Sha-note, “wind blowing through,” was renamed Charlotte. Names the soldiers or the missionaries could not pronounce were not permitted.

When they got to Kansas they must have been relieved to find groves of nut trees along the rivers—a type unknown to them, but delicious and plentiful. Without a name for this new food they just called them nuts—*pigan*—which became *pecan* in English.

I only make pecan pie at Thanksgiving, when there are plenty around to eat it all. I don’t even like it especially, but I want to honor that tree. Feeding guests its fruit around the big table recalls the trees’ welcome to our ancestors when they were lonesome and tired and so far from home.

The boys may have come home fishless, but they brought back nearly as much protein as if they’d had a stringer of catfish. Nuts are like the pan fish of the forest, full of protein and especially fat—“poor man’s meat,” and they were poor. Today we eat them daintily, shelled and toasted, but in the old times they’d boil them up in a porridge. The fat floated to the top like a chicken soup and they skimmed it and stored it as nut butter: good winter food. High in calories and vitamins—everything you needed to sustain life. After all, that’s the whole point of nuts: to provide the embryo with all that is needed to start a new life.

....

Butternuts, black walnuts, hickories, and pecans are all closely related members of the same family (*Juglandaceae*). Our people carried them wherever they migrated, more often in baskets than in pants, though. Pecans today trace the rivers through the prairies, populating fertile bottomlands where people settled. My Haudenosaunee neighbors say that their ancestors were so fond of butternuts that they are a good marker of old village sites today. Sure enough, there is a grove of butternuts, uncommon in “wild” forests, on the hill above the spring at my house. I clear the weeds around the young ones every year and slosh a bucket of water on them when the rains are late. Remembering.

The old family home place on the allotment in Oklahoma has a pecan tree shading what remains of the house. I imagine Grammy pouring nuts out to prepare them and one rolling away to a welcoming spot at the edge of the dooryard. Or maybe she paid her debt to the trees by planting a handful in her garden right then and there.

Thinking back to that old story again, it strikes me that the boys in the pecan grove were very wise to carry home all that they could: nut trees don't make a crop every year, but rather produce at unpredictable intervals. Some years a feast, most years a famine, a boom and bust cycle known as mast fruiting. Unlike juicy fruits and berries, which invite you to eat them right away before they spoil, nuts protect themselves with a hard, almost stony shell and a green, leathery husk. The tree does not mean for you to eat them right away with juice dripping down your chin. They are designed to be food for winter, when you need fat and protein, heavy calories to keep you warm. They are safety for hard times, the embryo of survival. So rich is the reward that the contents are protected in a vault, double locked, a box inside a box. This protects the embryo within and its food supply, but it also virtually guarantees that the nut will be squirreled away someplace safe.

The only way through the shell is a lot of work, and a squirrel would be unwise to sit gnawing it in the open where a hawk would gladly take advantage of its preoccupation. Nuts are designed to be brought inside, to save for later in a chipmunk's cache, or in the root cellar of an Oklahoma cabin. In the way of all hoards, some will surely be forgotten—and then a tree is born.

For mast fruiting to succeed in generating new forests, each tree has to make lots and lots of nuts—so many that it overwhelms the would-be seed predators. If a tree just plodded along making a few nuts every year, they'd all get eaten and there would be no next generation of pecans. But given the high caloric value of nuts, the trees can't afford this outpouring every year—they have to save up for it, as a family saves up for a special event. Mast-fruiting trees spend years making sugar, and rather than spending it little by little, they stick it under the proverbial mattress, banking calories as starch in their roots. When the account has a surplus, only then could my Grandpa bring home pounds of nuts.

This boom and bust cycle remains a playground of hypotheses for tree physiologists and evolutionary biologists. Forest ecologists hypothesize that mast fruiting is the simple outcome of this energetic equation: make fruit only when you can afford it. That makes sense. But trees grow and accumulate calories at different rates depending on their habitats. So, like the settlers who got the fertile farmland, the fortunate ones would get rich quickly and fruit often, while their shaded neighbors would struggle and only rarely have an abundance, waiting for years to reproduce. If this were true, each tree would fruit on its own schedule, predictable by the size of its reserves of stored starch. But they don't. If one tree fruits, they all fruit—there are no soloists. Not one tree in a grove, but the whole grove; not one grove in the forest, but every grove; all across the county and all across the state. The trees act not as individuals, but somehow as a collective. Exactly how they do this, we don't yet know. But what we see is the power of unity. What happens to one happens to us all. We can starve together or feast together. All flourishing is mutual.

In the summer of 1895, the root cellars throughout Indian Territory were full of pecans, and so were the bellies of boys and squirrels. For people, the pulse of abundance felt like a gift, a profusion of food to be simply picked up from the ground. That is, if you got there before the squirrels. And if you didn't, at least there would be lots of squirrel stew that winter. The pecan groves give, and give again. Such communal generosity might seem incompatible with the process of evolution, which

invokes the imperative of individual survival. But we make a grave error if we try to separate individual well-being from the health of the whole. The gift of abundance from pecans is also a gift to themselves. By satiating squirrels and people, the trees are ensuring their own survival. The genes that translate to mast fruiting flow on evolutionary currents into the next generations, while those that lack the ability to participate will be eaten and reach an evolutionary dead end. Just so, people who know how to read the land for nuts and carry them home to safety will survive the February blizzards and pass on that behavior to their progeny, not by genetic transmission but by cultural practice.

Forest scientists describe the generosity of mast fruiting with the predator-satiation hypothesis. The story seems to go like this: When the trees produce more than the squirrels can eat, some nuts escape predation. Likewise, when the squirrel larders are packed with nuts, the plump pregnant mamas have more babies in each litter and the squirrel population skyrockets. Which means that the hawk mamas have more babies, and fox dens are full too. But when the next fall comes, the happy days are over, because the trees have shut off nut production. There's little to fill the squirrels' larders now—they come home empty-handed—so they go out looking, harder and harder, exposing themselves to the increased population of watchful hawks and hungry foxes. The predator-prey ratio is not in their favor, and through starvation and predation the squirrel population plummets and the woods grow quiet without their chattering. You can imagine the trees whispering to each other at this point, “There are just a few squirrels left. Wouldn't this be a good time to make some nuts?” All across the landscape, out come the pecan flowers poised to become a bumper crop again. Together, the trees survive, and thrive.

The federal government's Indian Removal policies wrenched many Native peoples from our homelands. It separated us from our traditional knowledge and lifeways, the bones of our ancestors, our sustaining plants—but even this did not extinguish identity. So the government

tried a new tool, separating children from their families and cultures, sending them far away to school, long enough, they hoped, to make them forget who they were.

Throughout Indian Territory there are records of Indian agents being paid a bounty for rounding up kids to ship to the government boarding schools. Later, in a pretense of choice, the parents had to sign papers to let their children go “legally.” Parents who refused could go to jail. Some may have hoped it would give their children a better future than a dust-bowl farm. Sometimes federal rations—weevilly flour and rancid lard that were supposed to replace the buffalo—would be withheld until the children were signed over. Maybe it was a good pecan year that staved off the agents for one more season. The threat of being sent away would surely make a small boy run home half naked, his pants stuffed with food. Maybe it was a low year for pecans when the Indian agent came again, looking for skinny brown kids who had no prospect of supper—maybe that was the year Grammy signed the papers.

Children, language, lands: almost everything was stripped away, stolen when you weren't looking because you were trying to stay alive. In the face of such loss, one thing our people could not surrender was the meaning of land. In the settler mind, land was property, real estate, capital, or natural resources. But to our people, it was everything: identity, the connection to our ancestors, the home of our nonhuman kinfolk, our pharmacy, our library, the source of all that sustained us. Our lands were where our responsibility to the world was enacted, sacred ground. It belonged to itself; it was a gift, not a commodity, so it could never be bought or sold. These are the meanings people took with them when they were forced from their ancient homelands to new places. Whether it was their homeland or the new land forced upon them, land held in common gave people strength; it gave them something to fight for. And so—in the eyes of the federal government—that belief was a threat.

So after thousands of miles of forced moves and loss and finally settling us in Kansas, the federal government came once again to my people and offered another move, this time to a place that would be

theirs forever, a move to end all moves. And what's more, the people were offered a chance to become United States citizens, to be part of the great country that surrounded them and to be protected by its power. Our leaders, my grandpa's grandpa among them, studied and counceled and sent delegations to Washington to consult. The U.S. Constitution apparently had no power to protect the homelands of indigenous peoples. Removal had made that abundantly clear. But the Constitution did explicitly protect the land rights of citizens who were individual property owners. Perhaps that was the route to a permanent home for the people.

The leaders were offered the American Dream, the right to own their own property as individuals, inviolate from the vagaries of shifting Indian policy. They'd never be forced off their lands again. There would be no more graves along a dusty road. All they had to do was agree to surrender their allegiance to land held in common and agree to private property. With heavy hearts, they sat in council all summer, struggling to decide and weighing the options, which were few. Families were divided against families. Stay in Kansas on communal land and run the risk of losing it all, or go to Indian Territory as individual landowners with a legal guarantee. This historic council met all that hot summer in a shady place that came to be known as the Pecan Grove.

We have always known that the plants and animals have their own councils, and a common language. The trees, especially, we recognize as our teachers. But it seems no one listened that summer when the Pecans counseled: Stick together, act as one. We Pecans have learned that there is strength in unity, that the lone individual can be picked off as easily as the tree that has fruited out of season. The teachings of Pecans were not heard, or heeded.

And so our families packed the wagon one more time and moved west to Indian Territory, to the promised land, to become the Citizen Potawatomi. Tired and dusty but hopeful for their future, they found an old friend their first night on the new lands: a pecan grove. They rolled their wagons beneath the shelter of its branches and began again. Every tribal member, even my grandpa, a baby in arms, was given title

to an allotment of land the federal government deemed sufficient for making a living as a farmer. By accepting citizenship, they ensured that their allotments could not be taken from them. Unless, of course, a citizen could not pay his taxes. Or a rancher offered a keg of whiskey and a lot of money, “fair and square.” Any unallocated parcels were snapped up by non-Indian settlers just as hungry squirrels snap up pecans. During the allotment era, more than two-thirds of the reservation lands were lost. Barely a generation after land was “guaranteed” through the sacrifice of common land converted to private property, most of it was gone.

The pecan trees and their kin show a capacity for concerted action, for unity of purpose that transcends the individual trees. They ensure somehow that all stand together and thus survive. How they do so is still elusive. There is some evidence that certain cues from the environment may trigger fruiting, like a particularly wet spring or a long growing season. These favorable physical conditions help all the trees achieve an energy surplus that they can spend on nuts. But, given the individual differences in habitat, it seems unlikely that environment alone could be the key to synchrony.

In the old times, our elders say, the trees talked to each other. They’d stand in their own council and craft a plan. But scientists decided long ago that plants were deaf and mute, locked in isolation without communication. The possibility of conversation was summarily dismissed. Science pretends to be purely rational, completely neutral, a system of knowledge-making in which the observation is independent of the observer. And yet the conclusion was drawn that plants cannot communicate because they lack the mechanisms that *animals* use to speak. The potentials for plants were seen purely through the lens of animal capacity. Until quite recently no one seriously explored the possibility that plants might “speak” to one another. But pollen has been carried reliably on the wind for eons, communicated by males to receptive females to make those very nuts. If the wind can be trusted with that fecund responsibility, why not with messages?

There is now compelling evidence that our elders were right—the

trees *are* talking to one another. They communicate via pheromones, hormonelike compounds that are wafted on the breeze, laden with meaning. Scientists have identified specific compounds that one tree will release when it is under the stress of insect attack—gypsy moths gorging on its leaves or bark beetles under its skin. The tree sends out a distress call: “Hey, you guys over there? I’m under attack here. You might want to raise the drawbridge and arm yourselves for what is coming your way.” The downwind trees catch the drift, sensing those few molecules of alarm, the whiff of danger. This gives them time to manufacture defensive chemicals. Forewarned is forearmed. The trees warn each other and the invaders are repelled. The individual benefits, and so does the entire grove. Trees appear to be talking about mutual defense. Could they also communicate to synchronize masting? There is so much we cannot yet sense with our limited human capacity. Tree conversations are still far above our heads.

Some studies of mast fruiting have suggested that the mechanism for synchrony comes not through the air, but underground. The trees in a forest are often interconnected by subterranean networks of mycorrhizae, fungal strands that inhabit tree roots. The mycorrhizal symbiosis enables the fungi to forage for mineral nutrients in the soil and deliver them to the tree in exchange for carbohydrates. The mycorrhizae may form fungal bridges between individual trees, so that all the trees in a forest are connected. These fungal networks appear to redistribute the wealth of carbohydrates from tree to tree. A kind of Robin Hood, they take from the rich and give to the poor so that all the trees arrive at the same carbon surplus at the same time. They weave a web of reciprocity, of giving and taking. In this way, the trees all act as one because the fungi have connected them. Through unity, survival. All flourishing is mutual. Soil, fungus, tree, squirrel, boy—all are the beneficiaries of reciprocity.

How generously they shower us with food, literally giving themselves so that we can live. But in the giving their lives are also ensured. Our taking returns benefit to them in the circle of life making life, the chain of reciprocity. Living by the precepts of the Honorable Harvest—to

take only what is given, to use it well, to be grateful for the gift, and to reciprocate the gift—is easy in a pecan grove. We reciprocate the gift by taking care of the grove, protecting it from harm, planting seeds so that new groves will shade the prairie and feed the squirrels.

Now, two generations later, after removal, after allotment, after the boarding schools, after diaspora, my family returns to Oklahoma, to what is left of my grandfather's allotment. From the hilltop you can still see pecan groves along the river. At night we dance on the old powwow grounds. The ancient ceremonies greet the sunrise. The smell of corn soup and the sound of drums fill the air as the nine bands of Potawatomi, scattered across the country by this history of removal, come together again for a few days each year in a search for belonging. The Potawatomi Gathering of Nations reunites the people, an antidote to the divide-and-conquer strategy that was used to separate our people from each other and from our homelands. The synchrony of our Gathering is determined by our leaders, but more importantly, there is something like a mycorrhizal network that unites us, an unseen connection of history and family and responsibility to both our ancestors and our children. As a nation, we are beginning to follow the guidance of our elders the pecans by standing together for the benefit of all. We are remembering what they said, that all flourishing is mutual.

This is a mast year for my family; we are all here at the Gathering, thick on the ground, like seeds for the future. Like an embryo provisioned and protected inside layers of stony shell, we have survived the lean years and flower together. I go walking in the pecan grove, perhaps the very place where my grandfather stuffed his pant legs full. He would be surprised to find us all here, dancing the circle, remembering pecans.

THE GIFT OF STRAWBERRIES

I once heard Evon Peter—a Gwich'in man, a father, a husband, an environmental activist, and Chief of Arctic Village, a small village in northeastern Alaska—introduce himself simply as “a boy who was raised by a river.” A description as smooth and slippery as a river rock. Did he mean only that he grew up near its banks? Or was the river responsible for rearing him, for teaching him the things he needed to live? Did it feed him, body and soul? Raised by a river: I suppose both meanings are true—you can hardly have one without the other.

In a way, I was raised by strawberries, fields of them. Not to exclude the maples, hemlocks, white pines, goldenrod, asters, violets, and mosses of upstate New York, but it was the wild strawberries, beneath dewy leaves on an almost-summer morning, who gave me my sense of the world, my place in it. Behind our house were miles of old hay fields divided by stone walls, long abandoned from farming but not yet grown up to forest. After the school bus chugged up our hill, I'd throw down my red plaid book bag, change my clothes before my mother could think of a chore, and jump across the crick to go wandering in the goldenrod. Our mental maps had all the landmarks we kids needed: the fort under the sumacs, the rock pile, the river, the big pine with branches so evenly spaced you could climb to the top as if it were a ladder—and the strawberry patches.

White petals with a yellow center—like a little wild rose—they dotted the acres of curl grass in May during the Flower Moon, *waabigwanigiizis*. We kept good track of them, peeking under the trifoliate leaves

to check their progress as we ran through on our way to catch frogs. After the flower finally dropped its petals, a tiny green nub appeared in its place, and as the days got longer and warmer it swelled to a small white berry. These were sour but we ate them anyway, impatient for the real thing.

You could smell ripe strawberries before you saw them, the fragrance mingling with the smell of sun on damp ground. It was the smell of June, the last day of school, when we were set free, and the Strawberry Moon, *ode'mini-giizis*. I'd lie on my stomach in my favorite patches, watching the berries grow sweeter and bigger under the leaves. Each tiny wild berry was scarcely bigger than a raindrop, dimpled with seeds under the cap of leaves. From that vantage point I could pick only the reddest of the red, leaving the pink ones for tomorrow.

Even now, after more than fifty Strawberry Moons, finding a patch of wild strawberries still touches me with a sensation of surprise, a feeling of unworthiness and gratitude for the generosity and kindness that comes with an unexpected gift all wrapped in red and green. "Really? For me? Oh, you shouldn't have." After fifty years they still raise the question of how to respond to their generosity. Sometimes it feels like a silly question with a very simple answer: eat them.

But I know that someone else has wondered these same things. In our Creation stories the origin of strawberries is important. Skywoman's beautiful daughter, whom she carried in her womb from Skyworld, grew on the good green earth, loving and loved by all the other beings. But tragedy befell her when she died giving birth to her twins, Flint and Sapling. Heartbroken, Skywoman buried her beloved daughter in the earth. Her final gifts, our most revered plants, grew from her body. The strawberry arose from her heart. In Potawatomi, the strawberry is *ode min*, the heart berry. We recognize them as the leaders of the berries, the first to bear fruit.

Strawberries first shaped my view of a world full of gifts simply scattered at your feet. A gift comes to you through no action of your own, free, having moved toward you without your beckoning. It is not

a reward; you cannot earn it, or call it to you, or even deserve it. And yet it appears. Your only role is to be open-eyed and present. Gifts exist in a realm of humility and mystery—as with random acts of kindness, we do not know their source.

Those fields of my childhood showered us with strawberries, raspberries, blackberries, hickory nuts in the fall, bouquets of wildflowers brought to my mom, and family walks on Sunday afternoon. They were our playground, retreat, wildlife sanctuary, ecology classroom, and the place where we learned to shoot tin cans off the stone wall. All for free. Or so I thought.

I experienced the world in that time as a gift economy, “goods and services” not purchased but received as gifts from the earth. Of course I was blissfully unaware of how my parents must have struggled to make ends meet in the wage economy raging far from this field.

In our family, the presents we gave one another were almost always homemade. I thought that was the definition of a gift: something you made for someone else. We made all our Christmas gifts: piggy banks from old Clorox bottles, hot pads from broken clothespins, and puppets from retired socks. My mother says it was because we had no money for store-bought presents. It didn't seem like a hardship to me; it was something special.

My father loves wild strawberries, so for Father's Day my mother would almost always make him strawberry shortcake. She baked the crusty shortcakes and whipped the heavy cream, but we kids were responsible for the berries. We each got an old jar or two and spent the Saturday before the celebration out in the fields, taking forever to fill them as more and more berries ended up in our mouths. Finally, we returned home and poured them out on the kitchen table to sort out the bugs. I'm sure we missed some, but Dad never mentioned the extra protein.

In fact, he thought wild strawberry shortcake was the best possible present, or so he had us convinced. It was a gift that could never be bought. As children raised by strawberries, we were probably unaware that the gift of berries was from the fields themselves, not from

us. Our gift was time and attention and care and red-stained fingers. Heart berries, indeed.

Gifts from the earth or from each other establish a particular relationship, an obligation of sorts to give, to receive, and to reciprocate. The field gave to us, we gave to my dad, and we tried to give back to the strawberries. When the berry season was done, the plants would send out slender red runners to make new plants. Because I was fascinated by the way they would travel over the ground looking for good places to take root, I would weed out little patches of bare ground where the runners touched down. Sure enough, tiny little roots would emerge from the runner and by the end of the season there were even more plants, ready to bloom under the next Strawberry Moon. No person taught us this—the strawberries showed us. Because they had given us a gift, an ongoing relationship opened between us.

Farmers around us grew a lot of strawberries and frequently hired kids to pick for them. My siblings and I would ride our bikes a long way to Crandall's farm to pick berries to earn spending money. A dime for every quart we picked. But Mrs. Crandall was a persnickety overseer. She stood at the edge of the field in her bib apron and instructed us how to pick and warned us not to crush any berries. She had other rules, too. "These berries belong to me," she said, "not to you. I don't want to see you kids eating my berries." I knew the difference: In the fields behind my house, the berries belonged to themselves. At this lady's roadside stand, she sold them for sixty cents a quart.

It was quite a lesson in economics. We'd have to spend most of our wages if we wanted to ride home with berries in our bike baskets. Of course those berries were ten times bigger than our wild ones, but not nearly so good. I don't believe we ever put those farm berries in Dad's shortcake. It wouldn't have felt right.

....

It's funny how the nature of an object—let's say a strawberry or a pair of socks—is so changed by the way it has come into your hands, as a gift or as a commodity. The pair of wool socks that I buy at the store, red and gray striped, are warm and cozy. I might feel grateful for the sheep that made the wool and the worker who ran the knitting machine. I hope so. But I have no *inherent* obligation to those socks as a commodity, as private property. There is no bond beyond the politely exchanged “thank you” with the clerk. I have paid for them and our reciprocity ended the minute I handed her the money. The exchange ends once parity has been established, an equal exchange. They become my property. I don't write a thank-you note to JCPenney.

But what if those very same socks, red and gray striped, were knitted by my grandmother and given to me as a gift? That changes everything. A gift creates ongoing relationship. I will write a thank-you note. I will take good care of them and if I am a very gracious grandchild I'll wear them when she visits even if I don't like them. When it's her birthday, I will surely make her a gift in return. As the scholar and writer Lewis Hyde notes, “It is the cardinal difference between gift and commodity exchange that a gift establishes a feeling-bond between two people.”

Wild strawberries fit the definition of gift, but grocery store berries do not. It's the relationship between producer and consumer that changes everything. As a gift-thinker, I would be deeply offended if I saw wild strawberries in the grocery store. I would want to kidnap them all. They were not meant to be sold, only to be given. Hyde reminds us that in a gift economy, one's freely given gifts cannot be made into someone else's capital. I can see the headline now: “Woman Arrested for Shoplifting Produce. Strawberry Liberation Front Claims Responsibility.”

This is the same reason we do not sell sweetgrass. Because it is given to us, it should only be given to others. My dear friend Wally “Bear” Meshigaud is a ceremonial firekeeper for our people and uses a lot of sweetgrass on our behalf. There are folks who pick for him in a good way, to keep him supplied, but even so, at a big gathering sometimes he runs out. At powwows and fairs you can see our own people

selling sweetgrass for ten bucks a braid. When Wally really needs *wiingashk* for a ceremony, he may visit one of those booths among the stalls selling frybread or hanks of beads. He introduces himself to the seller, explains his need, just as he would in a meadow, asking permission of the sweetgrass. He *cannot* pay for it, not because he doesn't have the money, but because it cannot be bought or sold and still retain its essence for ceremony. He expects sellers to graciously give him what he needs, but sometimes they don't. The guy at the booth thinks he's being shaken down by an elder. "Hey, you can't get something for nothin'," he says. But that is exactly the point. A gift *is* something for nothing, except that certain obligations are attached. For the plant to be sacred, it cannot be sold. Reluctant entrepreneurs will get a teaching from Wally, but they'll never get his money.

Sweetgrass belongs to Mother Earth. Sweetgrass pickers collect properly and respectfully, for their own use and the needs of their community. They return a gift to the earth and tend to the well-being of the *wiingashk*. The braids are given as gifts, to honor, to say thank you, to heal and to strengthen. The sweetgrass is kept in motion. When Wally gives sweetgrass to the fire, it is a gift that has passed from hand to hand, growing richer as it is honored in every exchange.

That is the fundamental nature of gifts: they move, and their value increases with their passage. The fields made a gift of berries to us and we made a gift of them to our father. The more something is shared, the greater its value becomes. This is hard to grasp for societies steeped in notions of private property, where others are, by definition, excluded from sharing. Practices such as posting land against trespass, for example, are expected and accepted in a property economy but are unacceptable in an economy where land is seen as a gift to all.

Lewis Hyde wonderfully illustrates this dissonance in his exploration of the "Indian giver." This expression, used negatively today as a pejorative for someone who gives something and then wants to have it back, actually derives from a fascinating cross-cultural misinterpretation between an indigenous culture operating in a gift economy and a colonial culture predicated on the concept of private property. When

gifts were given to the settlers by the Native inhabitants, the recipients understood that they were valuable and were intended to be retained. Giving them away would have been an affront. But the indigenous people understood the value of the gift to be based in reciprocity and would be affronted if the gifts did not circulate back to them. Many of our ancient teachings counsel that whatever we have been given is supposed to be given away again.

From the viewpoint of a private property economy, the “gift” is deemed to be “free” because we obtain it free of charge, at no cost. But in the gift economy, gifts are not free. The essence of the gift is that it creates a set of relationships. The currency of a gift economy is, at its root, reciprocity. In Western thinking, private land is understood to be a “bundle of rights,” whereas in a gift economy property has a “bundle of responsibilities” attached.

I was once lucky enough to spend time doing ecological research in the Andes. My favorite part was market day in the local village, when the square filled with vendors. There were tables loaded with *platanos*, carts of fresh papaya, stalls in bright colors with pyramids of tomatoes, and buckets of hairy yucca roots. Other vendors spread blankets on the ground, with everything you could need, from flip-flops to woven palm hats. Squatting behind her red blanket, a woman in a striped shawl and navy blue bowler spread out medicinal roots as beautifully wrinkled as she was. The colors, the smells of corn roasting on a wood fire and sharp limes, and the sounds of all the voices mingle wonderfully in my memory. I had a favorite stall where the owner, Edita, looked for me each day. She’d kindly explain how to cook unfamiliar items and pull out the sweetest pineapple she’d been saving under the table. Once she even had strawberries. I know that I paid the *gringa* prices but the experience of abundance and goodwill were worth every peso.

I dreamed not long ago of that market with all its vivid textures. I walked through the stalls with a basket over my arm as always and went right to Edita for a bunch of fresh cilantro. We chatted and laughed

and when I held out my coins she waved them off, patting my arm and sending me away. A gift, she said. *Muchas gracias, señora*, I replied. There was my favorite *panadera*, with clean cloths laid over the round loaves. I chose a few rolls, opened my purse, and this vendor too gestured away my money as if I were impolite to suggest paying. I looked around in bewilderment; this was my familiar market and yet everything had changed. It wasn't just for me—no shopper was paying. I floated through the market with a sense of euphoria. Gratitude was the only currency accepted here. It was all a gift. It was like picking strawberries in my field: the merchants were just intermediaries passing on gifts from the earth.

I looked in my basket: two zucchinis, an onion, tomatoes, bread, and a bunch of cilantro. It was still half empty, but it felt full. I had everything I needed. I glanced over at the cheese stall, thinking to get some, but knowing it would be given, not sold, I decided I could do without. It's funny: Had all the things in the market merely been a very low price, I probably would have scooped up as much as I could. But when everything became a gift, I felt self-restraint. I didn't want to take too much. And I began thinking of what small presents I might bring to the vendors tomorrow.

The dream faded, of course, but the feelings first of euphoria and then of self-restraint remain. I've thought of it often and recognize now that I was witness there to the conversion of a market economy to a gift economy, from private goods to common wealth. And in that transformation the relationships became as nourishing as the food I was getting. Across the market stalls and blankets, warmth and compassion were changing hands. There was a shared celebration of abundance for all we'd been given. And since every market basket contained a meal, there was justice.

I'm a plant scientist and I want to be clear, but I am also a poet and the world speaks to me in metaphor. When I speak of the gift of berries, I do not mean that *Fragaria virginiana* has been up all night making a present just for me, strategizing to find exactly what I'd like on a summer morning. So far as we know, that does not happen, but

as a scientist I am well aware of how little we do know. The plant has in fact been up all night assembling little packets of sugar and seeds and fragrance and color, because when it does so its evolutionary fitness is increased. When it is successful in enticing an animal such as me to disperse its fruit, its genes for making yumminess are passed on to ensuing generations with a higher frequency than those of the plant whose berries were inferior. The berries made by the plant shape the behaviors of the dispersers and have adaptive consequences.

What I mean of course is that our human relationship with strawberries is transformed by our choice of perspective. It is human perception that makes the world a gift. When we view the world this way, strawberries and humans alike are transformed. The relationship of gratitude and reciprocity thus developed can increase the evolutionary fitness of both plant and animal. A species and a culture that treat the natural world with respect and reciprocity will surely pass on genes to ensuing generations with a higher frequency than the people who destroy it. The stories we choose to shape our behaviors have adaptive consequences.

Lewis Hyde has made extensive studies of gift economies. He finds that “objects . . . will remain plentiful *because* they are treated as gifts.” A gift relationship with nature is a “formal give-and-take that acknowledges our participation in, and dependence upon, natural increase. We tend to respond to nature as a part of ourselves, not a stranger or alien available for exploitation. Gift exchange is the commerce of choice, for it is commerce that harmonizes with, or participates in, the process of [nature’s] increase.”

In the old times, when people’s lives were so directly tied to the land, it was easy to know the world as gift. When fall came, the skies would darken with flocks of geese, honking “Here we are.” It reminds the people of the Creation story, when the geese came to save Skywoman. The people are hungry, winter is coming, and the geese fill the marshes with food. It is a gift and the people receive it with thanksgiving, love, and respect.

But when the food does not come from a flock in the sky, when

you don't feel the warm feathers cool in your hand and know that a life has been given for yours, when there is no gratitude in return—that food may not satisfy. It may leave the spirit hungry while the belly is full. Something is broken when the food comes on a Styrofoam tray wrapped in slippery plastic, a carcass of a being whose only chance at life was a cramped cage. That is not a gift of life; it is a theft.

How, in our modern world, can we find our way to understand the earth as a gift again, to make our relations with the world sacred again? I know we cannot all become hunter-gatherers—the living world could not bear our weight—but even in a market economy, can we behave “as if” the living world were a gift?

We could start by listening to Wally. There are those who will try to sell the gifts, but, as Wally says of sweetgrass for sale, “Don't buy it.” Refusal to participate is a moral choice. Water is a gift for all, not meant to be bought and sold. Don't buy it. When food has been wrenched from the earth, depleting the soil and poisoning our relatives in the name of higher yields, don't buy it.

In material fact, Strawberries belong only to themselves. The exchange relationships we choose determine whether we share them as a common gift or sell them as a private commodity. A great deal rests on that choice. For the greater part of human history, and in places in the world today, common resources were the rule. But some invented a different story, a social construct in which everything is a commodity to be bought and sold. The market economy story has spread like wildfire, with uneven results for human well-being and devastation for the natural world. But it is just a story we have told ourselves and we are free to tell another, to reclaim the old one.

One of these stories sustains the living systems on which we depend. One of these stories opens the way to living in gratitude and amazement at the richness and generosity of the world. One of these stories asks us to bestow our own gifts in kind, to celebrate our kinship with the world. We can choose. If all the world is a commodity, how poor we grow. When all the world is a gift in motion, how wealthy we become.

In those childhood fields, waiting for strawberries to ripen, I used

to eat the sour white ones, sometimes out of hunger but mostly from impatience. I knew the long-term results of my short-term greed, but I took them anyway. Fortunately, our capacity for self-restraint grows and develops like the berries beneath the leaves, so I learned to wait. A little. I remember lying on my back in the fields watching the clouds go by and rolling over to check the berries every few minutes. When I was young, I thought the change might happen that fast. Now I am old and I know that transformation is slow. The commodity economy has been here on Turtle Island for four hundred years, eating up the white strawberries and everything else. But people have grown weary of the sour taste in their mouths. A great longing is upon us, to live again in a world made of gifts. I can scent it coming, like the fragrance of ripening strawberries rising on the breeze.

AN OFFERING

Our people were canoe people. Until they made us walk. Until our lake-shore lodges were signed away for shanties and dust. Our people were a circle, until we were dispersed. Our people shared a language with which to thank the day, until they made us forget. But we didn't forget. Not quite.

Most summer mornings of childhood I woke to the sound of the out-house door—the squeak of the hinge followed by the hollow *thunk* as it shut. I rose to consciousness through the hazy songs of vireos and thrushes, the lapping of the lake, and finally the sound of my father pumping the tank on the Coleman stove. By the time my brother and sisters and I emerged from our sleeping bags the sun would just be topping the eastern shore, pulling mist off the lake in long white coils. The small four-cup coffeepot of battered aluminum, blackened with the smoke of many fires, would already be thumping. Our family spent summers canoe camping in the Adirondacks and every day began this way.

I can picture my father, in his red-checked wool shirt, standing atop the rocks above the lake. When he lifts the coffeepot from the stove the morning bustle stops; we know without being told that it's time to pay attention. He stands at the edge of camp with the coffeepot in his hands, holding the top in place with a folded pot holder. He pours coffee out on the ground in a thick brown stream.

The sunlight catches the flow, striping it amber and brown and black as it falls to the earth and steams in the cool morning air. With his face to the morning sun, he pours and speaks into the stillness, “Here’s to the gods of Tahawus.” The stream runs down over smooth granite to merge with the lake water, as clear and brown as the coffee. I watch it trickle, picking up bits of pale lichen and soaking a tiny clump of moss as it follows a crack to the water’s edge. The moss swells with the liquid and unfurls its leaves to the sun. Then and only then does he pour out steaming cups of coffee for himself and my mother, who stands at the stove making pancakes. So begins each morning in the north woods: the words that come before all else.

I was pretty sure that no other family I knew began their day like this, but I never questioned the source of those words and my father never explained. They were just part of our life among the lakes. But their rhythm made me feel at home and the ceremony drew a circle around our family. By those words we said “Here we are,” and I imagined that the land heard us—murmured to itself, “Ohh, *here* are the ones who know how to say thank you.”

Tahawus is the Algonquin name for Mount Marcy, the highest peak in the Adirondacks. It’s called Mount Marcy to commemorate a governor who never set foot on those wild slopes. Tahawus, “the Cloud Splitter,” is its true name, invoking its essential nature. Among our Potawatomi people, there are public names and true names. True names are used only by intimates and in ceremony. My father had been on Tahawus’s summit many times and knew it well enough to call it by name, speaking with intimate knowledge of the place and the people who came before. When we call a place by name it is transformed from wilderness to homeland. I imagined that this beloved place knew my true name as well, even when I myself did not.

Sometimes my father would name the gods of Forked Lake or South Pond or Brandy Brook Flow, wherever our tents were settled for the night. I came to know that each place was inspirited, was home to others before we arrived and long after we left. As he called out

the names and offered a gift, the first coffee, he quietly taught us the respect we owed these other beings and how to show our thanks for summer mornings.

I knew that in the long-ago times our people raised their thanks in morning songs, in prayer, and the offering of sacred tobacco. But at that time in our family history we didn't have sacred tobacco and we didn't know the songs—they'd been taken away from my grandfather at the doors of the boarding school. But history moves in a circle and here we were, the next generation, back to the loon-filled lakes of our ancestors, back to canoes.

My mother had her own more pragmatic ritual of respect: the translation of reverence and intention into action. Before we paddled away from any camping place she made us kids scour the place to be sure that it was spotless. No burnt matchstick, no scrap of paper escaped her notice. "Leave this place better than you found it," she admonished. And so we did. We also had to leave wood for the next person's fire, with tinder and kindling carefully sheltered from rain by a sheet of birch bark. I liked to imagine their pleasure, those other paddlers, arriving after dark to find a ready pile of fuel to warm their evening meal. My mother's ceremony connected us to them, too.

The offering was made only under an open sky and never back in town where we lived. On Sundays, when other kids would go to church, my folks would take us out along the river to look for herons and muskrats, to the woods to hunt for spring flowers, or on picnics. The words came along. For our winter picnics, we would walk all morning on snowshoes and then build a fire in the center of a circle stomped down with our webbed feet. This time the pot was full of bubbling tomato soup, and the first draught poured was for the snow. "Here's to the gods of Tahawus"—only then would we wrap mittened hands around our steaming cups.

And yet, as I grew to adolescence, the offering began to leave me angry or sad. The circle that had brought me a sense of belonging turned inside out. I heard in the words a message that we did not belong because

we spoke in the language of exiles. It was a secondhand ceremony. Somewhere there were people who knew the right ceremony, who knew the lost language and spoke the true names, including my own.

But, still, every morning I watched the coffee disappear into the crumbly brown humus, as if returning to itself. In the same way that the flow of coffee down the rock opened the leaves of the moss, ceremony brought the quiescent back to life, opened my mind and heart to what I knew, but had forgotten. The words and the coffee called us to remember that these woods and lakes were a gift. Ceremonies large and small have the power to focus attention to a way of living awake in the world. The visible became invisible, merging with the soil. It may have been a secondhand ceremony, but even through my confusion I recognized that the earth drank it up as if it were right. The land knows you, even when you are lost.

A people's story moves along like a canoe caught in the current, being carried closer and closer to where we had begun. As I grew up, my family found again the tribal connections that had been frayed, but never broken, by history. We found the people who knew our true names. And when I first heard in Oklahoma the sending of thanks to the four directions at the sunrise lodge—the offering in the old language of the sacred tobacco—I heard it as if in my father's voice. The language was different but the heart was the same.

Ours was a solitary ceremony, but fed from the same bond with the land, founded on respect and gratitude. Now the circle drawn around us is bigger, encompassing a whole people to which we again belong. But still the offering says, "Here we are," and still I hear at the end of the words the land murmuring to itself, "Ohh, *here* are the ones who know how to say thank you." Today, my father can speak his prayer in our language. But it was "Here's to the gods of Tahawus" that came first, in the voice that I will always hear.

It was in the presence of the ancient ceremonies that I understood that our coffee offering was not secondhand, it was ours.

....

Much of who I am and what I do is wrapped up in my father's offering by the lakeshore. Each day still begins with a version of "Here's to the gods of Tahawus," a thanksgiving for the day. My work as an ecologist, a writer, a mother, as a traveler between scientific and traditional ways of knowing, grows from the power of those words. It reminds me of who we are; it reminds me of our gifts and our responsibility to those gifts. Ceremony is a vehicle for belonging—to a family, to a people, and to the land.

At last, I thought that I understood the offering to the gods of Tahawus. It was, for me, the *one* thing that was not forgotten, that which could not be taken by history: the knowing that we belonged to the land, that we were the people who knew how to say thank you. It welled up from a deep blood memory that the land, the lakes, and the spirit had held for us. But years later, with my own answer already in place, I asked my father, "Where did the ceremony come from—did you learn it from your father, and he from his? Did it stretch all the way back to the time of the canoes?"

He thought for a long time. "No, I don't think so. It's just what we did. It seemed right." That was all.

Some weeks went by, though, and when we spoke again he said, "I've been thinking about the coffee and how we started giving it to the ground. You know, it was boiled coffee. There's no filter and if it boils too hard the grounds foam up and get stuck in the spout. So the first cup you pour would get that plug of grounds and be spoiled. I think we first did it to clear the spout." It was as if he'd told me that the water didn't change to wine—the whole web of gratitude, the whole story of remembrance, was nothing more than the *dumping* of the grounds?

"But, you know," he said, "there weren't always grounds to clear. It started out that way, but it became something else. A thought. It was a kind of respect, a kind of thanks. On a beautiful summer morning, I suppose you could call it joy."

That, I think, is the power of ceremony: it marries the mundane to the sacred. The water turns to wine, the coffee to a prayer. The material

and the spiritual mingle like grounds mingled with humus, transformed like steam rising from a mug into the morning mist.

What else can you offer the earth, which has everything? What else can you give but something of yourself? A homemade ceremony, a ceremony that makes a home.

ASTERS AND GOLDENROD

The girl in the picture holds a slate with her name and “class of ’75” chalked in, a girl the color of deerskin with long dark hair and inky unreadable eyes that meet yours and won’t look away. I remember that day. I was wearing the new plaid shirt that my parents had given me, an outfit I thought to be the hallmark of all foresters. When I looked back at the photo later in life, it was a puzzle to me. I recall being elated to be going to college, but there is no trace of that in the girl’s face.

Even before I arrived at school, I had all of my answers prepared for the freshman intake interview. I wanted to make a good first impression. There were hardly any women at the forestry school in those days and certainly none who looked like me. The adviser peered at me over his glasses and said, “So, why do you want to major in botany?” His pencil was poised over the registrar’s form.

How could I answer, how could I tell him that I was born a botanist, that I had shoeboxes of seeds and piles of pressed leaves under my bed, that I’d stop my bike along the road to identify a new species, that plants colored my dreams, that the plants had chosen me? So I told him the truth. I was proud of my well-planned answer, its freshman sophistication apparent to anyone, the way it showed that I already knew some plants and their habitats, that I had thought deeply about their nature and was clearly well prepared for college work. I told him that I chose botany because I wanted to learn about why asters and goldenrod looked so beautiful together. I’m sure I was smiling then, in my red plaid shirt.

But he was not. He laid down his pencil as if there was no need to record what I had said. “Miss Wall,” he said, fixing me with a disappointed smile, “I must tell you that *that* is not science. That is not at all the sort of thing with which botanists concern themselves.” But he promised to put me right. “I’ll enroll you in General Botany so you can learn what it is.” And so it began.

I like to imagine that they were the first flowers I saw, over my mother’s shoulder, as the pink blanket slipped away from my face and their colors flooded my consciousness. I’ve heard that early experience can attune the brain to certain stimuli, so that they are processed with greater speed and certainty, so that they can be used again and again, so that we remember. Love at first sight. Through cloudy newborn eyes their radiance formed the first botanical synapses in my wide-awake, newborn brain, which until then had encountered only the blurry gentleness of pink faces. I’m guessing all eyes were on me, a little round baby all swaddled in bunting, but mine were on Goldenrod and Asters. I was born to these flowers and they came back for my birthday every year, weaving me into our mutual celebration.

People flock to our hills for the fiery suite of October but they often miss the sublime prelude of September fields. As if harvest time were not enough—peaches, grapes, sweet corn, squash—the fields are also embroidered with drifts of golden yellow and pools of deepest purple, a masterpiece.

If a fountain could jet bouquets of chrome yellow in dazzling arches of chrysanthemum fireworks, that would be Canada Goldenrod. Each three-foot stem is a geyser of tiny gold daisies, ladylike in miniature, exuberant en masse. Where the soil is damp enough, they stand side by side with their perfect counterpart, New England Asters. Not the pale domesticates of the perennial border, the weak sauce of lavender or sky blue, but full-on royal purple that would make a violet shrink. The daisylike fringe of purple petals surrounds a disc as bright as the sun at high noon, a golden-orange pool, just a tantalizing shade

darker than the surrounding goldenrod. Alone, each is a botanical superlative. Together, the visual effect is stunning. Purple and gold, the heraldic colors of the king and queen of the meadow, a regal procession in complementary colors. I just wanted to know why.

Why do they stand beside each other when they could grow alone? Why this particular pair? There are plenty of pinks and whites and blues dotting the fields, so is it only happenstance that the magnificence of purple and gold end up side by side? Einstein himself said that “God doesn’t play dice with the universe.” What is the source of this pattern? Why is the world so beautiful? It could so easily be otherwise: flowers could be ugly to us and still fulfill their own purpose. But they’re not. It seemed like a good question to me.

But my adviser said, “It’s not science,” not what botany was about. I wanted to know why certain stems bent easily for baskets and some would break, why the biggest berries grew in the shade and why they made us medicines, which plants are edible, why those little pink orchids only grow under pines. “Not science,” he said, and he ought to know, sitting in his laboratory, a learned professor of botany. “And if you want to study beauty, you should go to art school.” He reminded me of my deliberations over choosing a college, when I had vacillated between training as a botanist or as a poet. Since everyone told me I couldn’t do both, I’d chosen plants. He told me that science was not about beauty, not about the embrace between plants and humans.

I had no rejoinder; I had made a mistake. There was no fight in me, only embarrassment at my error. I did not have the words for resistance. He signed me up for my classes and I was dismissed to go get my photo taken for registration. I didn’t think about it at the time, but it was happening all over again, an echo of my grandfather’s first day at school, when he was ordered to leave everything—language, culture, family—behind. The professor made me doubt where I came from, what I knew, and claimed that his was the *right* way to think. Only he didn’t cut my hair off.

In moving from a childhood in the woods to the university I had unknowingly shifted between worldviews, from a natural history of

experience, in which I knew plants as teachers and companions to whom I was linked with mutual responsibility, into the realm of science. The questions scientists raised were not “Who are you?” but “What is it?” No one asked plants, “What can you tell us?” The primary question was “How does it work?” The botany I was taught was reductionist, mechanistic, and strictly objective. Plants were reduced to objects; they were not subjects. The way botany was conceived and taught didn’t seem to leave much room for a person who thought the way I did. The only way I could make sense of it was to conclude that the things I had always believed about plants must not be true after all.

That first plant science class was a disaster. I barely scraped by with a C and could not muster much enthusiasm for memorizing the concentrations of essential plant nutrients. There were times when I wanted to quit, but the more I learned, the more fascinated I became with the intricate structures that made up a leaf and the alchemy of photosynthesis. Companionship between asters and goldenrod was never mentioned, but I memorized botanical Latin as if it was poetry, eagerly tossing aside the name “goldenrod” for *Solidago canadensis*. I was mesmerized by plant ecology, evolution, taxonomy, physiology, soils, and fungi. All around me were my good teachers, the plants. I found good mentors, too, warm and kind professors who were doing heart-driven science, whether they could admit it or not. They too were my teachers. And yet there was always something tapping at my shoulder, willing me to turn around. When I did, I did not know how to recognize what stood behind me.

My natural inclination was to see relationships, to seek the threads that connect the world, to join instead of divide. But science is rigorous in separating the observer from the observed, and the observed from the observer. Why two flowers are beautiful together would violate the division necessary for objectivity.

I scarcely doubted the primacy of scientific thought. Following the path of science trained me to separate, to distinguish perception from

physical reality, to atomize complexity into its smallest components, to honor the chain of evidence and logic, to discern one thing from another, to savor the pleasure of precision. The more I did this, the better I got at it, and I was accepted to do graduate work in one of the world's finest botany programs, no doubt on the strength of the letter of recommendation from my adviser, which read, "She's done remarkably well for an Indian girl."

A master's degree, a PhD, and a faculty position followed. I am grateful for the knowledge that was shared with me and deeply privileged to carry the powerful tools of science as a way of engaging the world. It took me to other plant communities, far from the asters and goldenrod. I remember feeling, as a new faculty member, as if I finally understood plants. I too began to teach the mechanics of botany, emulating the approach that I had been taught.

It reminds me of a story told by my friend Holly Youngbear Tibbetts. A plant scientist, armed with his notebooks and equipment, is exploring the rainforests for new botanical discoveries, and he has hired an indigenous guide to lead him. Knowing the scientist's interests, the young guide takes care to point out the interesting species. The botanist looks at him appraisingly, surprised by his capacity. "Well, well, young man, you certainly know the names of a lot of these plants." The guide nods and replies with downcast eyes. "Yes, I have learned the names of all the bushes, but I have yet to learn their songs."

I was teaching the names and ignoring the songs.

When I was in graduate school in Wisconsin, my then husband and I had the good fortune to land jobs as caretakers at the university arboretum. In return for a little house at the edge of the prairie, we had only to make the nighttime rounds, checking that doors and gates were secure before we left the darkness to the crickets. There was just one time that a light was left burning, a door left ajar, in the horticulture garage. There was no mischief, but as my husband checked around, I stood and idly scanned the bulletin board. There was a news

clipping there with a photo of a magnificent American elm, which had just been named the champion for its species, the largest of its kind. It had a name: The Louis Vieux Elm.

My heart began to pound and I knew my world was about to change, for I'd known the name Louis Vieux all my life and here was his face looking at me from a news clipping. He was our Potawatomi grandfather, one who had walked all the way from the Wisconsin forests to the Kansas prairie with my grandma Sha-note. He was a leader, one who took care of the people in their hardship. That garage door was left ajar, that light was left burning, and it shone on the path back home for me. It was the beginning of a long, slow journey back to my people, called out to me by the tree that stood above their bones.

To walk the science path I had stepped off the path of indigenous knowledge. But the world has a way of guiding your steps. Seemingly out of the blue came an invitation to a small gathering of Native elders, to talk about traditional knowledge of plants. One I will never forget—a Navajo woman without a day of university botany training in her life—spoke for hours and I hung on every word. One by one, name by name, she told of the plants in her valley. Where each one lived, when it bloomed, who it liked to live near and all its relationships, who ate it, who lined their nests with its fibers, what kind of medicine it offered. She also shared the stories held by those plants, their origin myths, how they got their names, and what they have to tell us. She spoke of beauty.

Her words were like smelling salts waking me to what I had known back when I was picking strawberries. I realized how shallow my understanding was. Her knowledge was so much deeper and wider and engaged all the human ways of understanding. She could have explained asters and goldenrod. To a new PhD, this was humbling. It was the beginning of my reclaiming that other way of knowing that I had helplessly let science supplant. I felt like a malnourished refugee invited to a feast, the dishes scented with the herbs of home.

I circled right back to where I had begun, to the question of beauty. Back to the questions that science does not ask, not because they aren't

important, but because science as a way of knowing is too narrow for the task. Had my adviser been a better scholar, he would have celebrated my questions, not dismissed them. He offered me only the cliché that beauty is in the eye of the beholder, and since science separates the observer and the observed, by definition beauty could not be a valid scientific question. I should have been told that my questions were bigger than science could touch.

He *was* right about beauty being in the eye of the beholder, especially when it comes to purple and yellow. Color perception in humans relies on banks of specialized receptor cells, the rods and cones in the retina. The job of the cone cells is to absorb light of different wavelengths and pass it on to the brain's visual cortex, where it can be interpreted. The visible light spectrum, the rainbow of colors, is broad, so the most effective means of discerning color is not one generalized jack-of-all-trades cone cell, but rather an array of specialists, each perfectly tuned to absorb certain wavelengths. The human eye has three kinds. One type excels at detecting red and associated wavelengths. One is tuned to blue. The other optimally perceives light of two colors: purple and yellow.

The human eye is superbly equipped to detect these colors and send a signal pulsing to the brain. This doesn't explain why I perceive them as beautiful, but it does explain why that combination gets my undivided attention. I asked my artist buddies about the power of purple and gold, and they sent me right to the color wheel: these two are complementary colors, as different in nature as could be. In composing a palette, putting them together makes each more vivid; just a touch of one will bring out the other. In an 1890 treatise on color perception, Goethe, who was both a scientist and a poet, wrote that "the colors diametrically opposed to each other . . . are those which *reciprocally* evoke each other in the eye." Purple and yellow are a reciprocal pair.

Our eyes are so sensitive to these wavelengths that the cones can get oversaturated and the stimulus pours over onto the other cells. A print-maker I know showed me that if you stare for a long time at a block of

yellow and then shift your gaze to a white sheet of paper, you will see it, for a moment, as violet. This phenomenon—the colored afterimage—occurs because there is energetic reciprocity between purple and yellow pigments, which goldenrod and asters knew well before we did.

If my adviser was correct, the visual effect that so delights a human like me may be irrelevant to the flowers. The real beholder whose eye they hope to catch is a bee bent on pollination. Bees perceive many flowers differently than humans do due to their perception of additional spectra such as ultraviolet radiation. As it turns out, though, goldenrod and asters appear very similarly to bee eyes and human eyes. We both think they're beautiful. Their striking contrast when they grow together makes them the most attractive target in the whole meadow, a beacon for bees. Growing together, both receive more pollinator visits than they would if they were growing alone. It's a testable hypothesis; it's a question of science, a question of art, and a question of beauty.

Why are they beautiful together? It is a phenomenon simultaneously material and spiritual, for which we need all wavelengths, for which we need depth perception. When I stare too long at the world with science eyes, I see an afterimage of traditional knowledge. Might science and traditional knowledge be purple and yellow to one another, might they be goldenrod and asters? We see the world more fully when we use both.

The question of goldenrod and asters was of course just emblematic of what I really wanted to know. It was an architecture of relationships, of connections that I yearned to understand. I wanted to see the shimmering threads that hold it all together. And I wanted to know why we love the world, why the most ordinary scrap of meadow can rock us back on our heels in awe.

When botanists go walking the forests and fields looking for plants, we say we are going on a *foray*. When writers do the same, we should call it a *metaphor*, and the land is rich in both. We need them both; scientist and poet Jeffrey Burton Russell writes that “as the sign of a deeper truth, metaphor was close to sacrament. Because the vastness

and richness of reality cannot be expressed by the overt sense of a statement alone.”

Native scholar Greg Cajete has written that in indigenous ways of knowing, we understand a thing only when we understand it with all four aspects of our being: mind, body, emotion, and spirit. I came to understand quite sharply when I began my training as a scientist that science privileges only one, possibly two, of those ways of knowing: mind and body. As a young person wanting to know everything about plants, I did not question this. But it is a whole human being who finds the beautiful path.

There was a time when I teetered precariously with an awkward foot in each of two worlds—the scientific and the indigenous. But then I learned to fly. Or at least try. It was the bees that showed me how to move between different flowers—to drink the nectar and gather pollen from both. It is this dance of cross-pollination that can produce a new species of knowledge, a new way of being in the world. After all, there aren't two worlds, there is just this one good green earth.

That September pairing of purple and gold is lived reciprocity; its wisdom is that the beauty of one is illuminated by the radiance of the other. Science and art, matter and spirit, indigenous knowledge and Western science—can they be goldenrod and asters for each other? When I am in their presence, their beauty asks me for reciprocity, to be the complementary color, to make something beautiful in response.

LEARNING THE GRAMMAR OF ANIMACY

To be native to a place we must learn to speak its language.

I come here to listen, to nestle in the curve of the roots in a soft hollow of pine needles, to lean my bones against the column of white pine, to turn off the voice in my head until I can hear the voices outside it: the *shhh* of wind in needles, water trickling over rock, nuthatch tapping, chipmunks digging, beechnut falling, mosquito in my ear, and something more—something that is not me, for which we have no language, the wordless being of others in which we are never alone. After the drumbeat of my mother's heart, *this* was my first language.

I could spend a whole day listening. And a whole night. And in the morning, without my hearing it, there might be a mushroom that was not there the night before, creamy white, pushed up from the pine needle duff, out of darkness to light, still glistening with the fluid of its passage. *Puhpowee*.

Listening in wild places, we are audience to conversations in a language not our own. I think now that it was a longing to comprehend this language I hear in the woods that led me to science, to learn over the years to speak fluent botany. A tongue that should not, by the way, be mistaken for the language of plants. I did learn another language in science, though, one of careful observation, an intimate vocabulary that names each little part. To name and describe you must first see, and science polishes the gift of seeing. I honor the strength of the

language that has become a second tongue to me. But beneath the richness of its vocabulary and its descriptive power, something is missing, the same something that swells around you and in you when you listen to the world. Science can be a language of distance which reduces a being to its working parts; it is a language of objects. The language scientists speak, however precise, is based on a profound error in grammar, an omission, a grave loss in translation from the native languages of these shores.

My first taste of the missing language was the word *Puhpowee* on my tongue. I stumbled upon it in a book by the Anishinaabe ethnobotanist Keewaydinoquay, in a treatise on the traditional uses of fungi by our people. *Puhpowee*, she explained, translates as “the force which causes mushrooms to push up from the earth overnight.” As a biologist, I was stunned that such a word existed. In all its technical vocabulary, Western science has no such term, no words to hold this mystery. You’d think that biologists, of all people, would have words for life. But in scientific language our terminology is used to define the boundaries of our knowing. What lies beyond our grasp remains unnamed.

In the three syllables of this new word I could see an entire process of close observation in the damp morning woods, the formulation of a theory for which English has no equivalent. The makers of this word understood a world of being, full of unseen energies that animate everything. I’ve cherished it for many years, as a talisman, and longed for the people who gave a name to the life force of mushrooms. The language that holds *Puhpowee* is one that I wanted to speak. So when I learned that the word for rising, for emergence, belonged to the language of my ancestors, it became a signpost for me.

Had history been different, I would likely speak Bodewadmimwin, or Potawatomi, an Anishinaabe language. But, like many of the three hundred and fifty indigenous languages of the Americas, Potawatomi is threatened, and I speak the language you read. The powers of assimilation did their work as my chance of hearing that language, and yours too, was washed from the mouths of Indian children in government boarding schools where speaking your native tongue was forbidden.

Children like my grandfather, who was taken from his family when he was just a little boy of nine years old. This history scattered not only our words but also our people. Today I live far from our reservation, so even if I could speak the language, I would have no one to talk to. But a few summers ago, at our yearly tribal gathering, a language class was held and I slipped into the tent to listen.

There was a great deal of excitement about the class because, for the first time, every single fluent speaker in our tribe would be there as a teacher. When the speakers were called forward to the circle of folding chairs, they moved slowly—with canes, walkers, and wheelchairs, only a few entirely under their own power. I counted them as they filled the chairs. Nine. Nine fluent speakers. In the whole world. Our language, millennia in the making, sits in those nine chairs. The words that praised creation, told the old stories, lulled my ancestors to sleep, rests today in the tongues of nine very mortal men and women. Each in turn addresses the small group of would-be students.

A man with long gray braids tells how his mother hid him away when the Indian agents came to take the children. He escaped boarding school by hiding under an overhung bank where the sound of the stream covered his crying. The others were all taken and had their mouths washed out with soap, or worse, for “talking that dirty Indian language.” Because he alone stayed home and was raised up calling the plants and animals by the name Creator gave them, he is here today, a carrier of the language. The engines of assimilation worked well. The speaker’s eyes blaze as he tells us, “We’re the end of the road. We are all that is left. If you young people do not learn, the language will die. The missionaries and the U.S. government will have their victory at last.”

A great-grandmother from the circle pushes her walker up close to the microphone. “It’s not just the words that will be lost,” she says. “The language is the heart of our culture; it holds our thoughts, our way of seeing the world. It’s too beautiful for English to explain.” *Puhpowee*.

Jim Thunder, at seventy-five the youngest of the speakers, is a

round brown man of serious demeanor who spoke only in Potawatomi. He began solemnly, but as he warmed to his subject his voice lifted like a breeze in the birch trees and his hands began to tell the story. He became more and more animated, rising to his feet, holding us rapt and silent although almost no one understood a single word. He paused as if reaching the climax of his story and looked out at the audience with a twinkle of expectation. One of the grandmothers behind him covered her mouth in a giggle and his stern face suddenly broke into a smile as big and sweet as a cracked watermelon. He bent over laughing and the grandmas dabbed away tears of laughter, holding their sides, while the rest of us looked on in wonderment. When the laughter subsided, he spoke at last in English: "What will happen to a joke when no one can hear it anymore? How lonely those words will be, when their power is gone. Where will they go? Off to join the stories that can never be told again."

So now my house is spangled with Post-it notes in another language, as if I were studying for a trip abroad. But I'm not going away, I'm coming home.

Ni pi je ezhyayen? asks the little yellow sticky note on my back door. My hands are full and the car is running, but I switch my bag to the other hip and pause long enough to respond. *Odaneḱ nde zhya*, I'm going to town. And so I do, to work, to class, to meetings, to the bank, to the grocery store. I talk all day and sometimes write all evening in the beautiful language I was born to, the same one used by 70 percent of the world's people, a tongue viewed as the most useful, with the richest vocabulary in the modern world. English. When I get home at night to my quiet house, there is a faithful Post-it note on the closet door. *Gisḱen I gbiskewagen!* And so I take off my coat.

I cook dinner, pulling utensils from cupboards labeled *emḱwanen, nagen*. I have become a woman who speaks Potawatomi to household objects. When the phone rings I barely glance at the Post-it there as I *dopnen* the *giḱtogan*. And whether it is a solicitor or a friend, they speak

English. Once a week or so, it is my sister from the West Coast who says *Bozho. Mok̄ththewenk̄we nda*—as if she needed to identify herself: who else speaks Potawatomi? To call it speaking is a stretch. Really, all we do is blurt garbled phrases to each other in a parody of conversation: How are you? I am fine. Go to town. See bird. Red. Frybread good. We sound like Tonto’s side of the Hollywood dialogue with the Lone Ranger. “Me try talk good Injun way.” On the rare occasion when we actually can string together a halfway coherent thought, we freely insert high school Spanish words to fill in the gaps, making a language we call Spanawatomi.

Tuesdays and Thursdays at 12:15 Oklahoma time, I join the Potawatomi lunchtime language class, streaming from tribal headquarters via the Internet. There are usually about ten of us, from all over the country. Together we learn to count and to say *pass the salt*. Someone asks, “How do you say *please* pass the salt?” Our teacher, Justin Neely, a young man devoted to language revival, explains that while there are several words for *thank you*, there is no word for *please*. Food was meant to be shared, no added politeness needed; it was simply a cultural given that one was asking respectfully. The missionaries took this absence as further evidence of crude manners.

Many nights, when I should be grading papers or paying bills, I’m at the computer running through Potawatomi language drills. After months, I have mastered the kindergarten vocabulary and can confidently match the pictures of animals to their indigenous names. It reminds me of reading picture books to my children: “Can you point to the squirrel? Where is the bunny?” All the while I’m telling myself that I really don’t have time for this, and what’s more, little need to know the words for *bass* and *fox* anyway. Since our tribal diaspora left us scattered to the four winds, who would I talk to?

The simple phrases I’m learning are perfect for my dog. Sit! Eat! Come here! Be quiet! But since she scarcely responds to these commands in English, I’m reluctant to train her to be bilingual. An admiring student once asked me if I spoke my native language. I was tempted to say, “Oh yes, we speak Potawatomi at home”—me, the dog, and the Post-it

notes. Our teacher tells us not to be discouraged and thanks us every time a word is spoken—thanks us for breathing life into the language, even if we only speak a single word. “But I have no one to talk to,” I complain. “None of us do,” he reassures me, “but someday we will.”

So I dutifully learn the vocabulary but find it hard to see the “heart of our culture” in translating *bed* and *sink* into Potawatomi. Learning nouns was pretty easy; after all, I’d learned thousands of botanical Latin names and scientific terms. I reasoned that this could not be too much different—just a one-for-one substitution, memorization. At least on paper, where you can see the letters, this is true. Hearing the language is a different story. There are fewer letters in our alphabet, so the distinction among words for a beginner is often subtle. With the beautiful clusters of consonants of *zh* and *mb* and *shwe* and *kwe* and *mshk*, our language sounds like wind in the pines and water over rocks, sounds our ears may have been more delicately attuned to in the past, but no longer. To learn again, you really have to listen.

To actually *speak*, of course, requires verbs, and here is where my kindergarten proficiency at naming things leaves off. English is a noun-based language, somehow appropriate to a culture so obsessed with things. Only 30 percent of English words are verbs, but in Potawatomi that proportion is 70 percent. Which means that 70 percent of the words have to be conjugated, and 70 percent have different tenses and cases to be mastered.

European languages often assign gender to nouns, but Potawatomi does not divide the world into masculine and feminine. Nouns and verbs both are animate and inanimate. You hear a person with a word that is completely different from the one with which you hear an airplane. Pronouns, articles, plurals, demonstratives, verbs—all those syntactical bits I never could keep straight in high school English are all aligned in Potawatomi to provide different ways to speak of the living world and the lifeless one. Different verb forms, different plurals, different everything apply depending on whether what you are speaking of is alive.

No wonder there are only nine speakers left! I try, but the complexity makes my head hurt and my ear can barely distinguish between

words that mean completely different things. One teacher reassures us that this will come with practice, but another elder concedes that these close similarities are inherent in the language. As Stewart King, a knowledge keeper and great teacher, reminds us, the Creator meant for us to laugh, so humor is deliberately built into the syntax. Even a small slip of the tongue can convert “We need more firewood” to “Take off your clothes.” In fact, I learned that the mystical word *Puhpowee* is used not only for mushrooms, but also for certain other shafts that rise mysteriously in the night.

My sister’s gift to me one Christmas was a set of magnetic tiles for the refrigerator in Ojibwe, or Anishinabemowin, a language closely related to Potawatomi. I spread them out on my kitchen table looking for familiar words, but the more I looked, the more worried I got. Among the hundred or more tiles, there was but a single word that I recognized: *megwech*, thank you. The small feeling of accomplishment from months of study evaporated in a moment.

I remember paging through the Ojibwe dictionary she sent, trying to decipher the tiles, but the spellings didn’t always match and the print was too small and there are way too many variations on a single word and I was feeling that this was just way too hard. The threads in my brain knotted and the harder I tried, the tighter they became. Pages blurred and my eyes settled on a word—a verb, of course: “to be a Saturday.” *Pffi!* I threw down the book. Since when is *Saturday* a verb? Everyone knows it’s a noun. I grabbed the dictionary and flipped more pages and all kinds of things seemed to be verbs: “to be a hill,” “to be red,” “to be a long sandy stretch of beach,” and then my finger rested on *wiikwegamaa*: “to be a bay.” “Ridiculous!” I ranted in my head. “There is no reason to make it so complicated. No wonder no one speaks it. A cumbersome language, impossible to learn, and more than that, it’s all wrong. A bay is most definitely a person, place, or thing—a noun and not a verb.” I was ready to give up. I’d learned a few words, done my duty to the language that was taken from my grandfather. Oh, the ghosts of the missionaries in the boarding schools must have been rubbing their hands in glee at my frustration. “She’s going to surrender,” they said.

And then I swear I heard the zap of synapses firing. An electric current sizzled down my arm and through my finger, and practically scorched the page where that one word lay. In that moment I could smell the water of the bay, watch it rock against the shore and hear it sift onto the sand. A bay is a noun only if water is *dead*. When *bay* is a noun, it is defined by humans, trapped between its shores and contained by the word. But the verb *wiikwegamaa*—to be a bay—releases the water from bondage and lets it live. “To be a bay” holds the wonder that, for this moment, the living water has decided to shelter itself between these shores, conversing with cedar roots and a flock of baby mergansers. Because it could do otherwise—become a stream or an ocean or a waterfall, and there are verbs for that, too. To be a hill, to be a sandy beach, to be a Saturday, all are possible verbs in a world where everything is alive. Water, land, and even a day, the language a mirror for seeing the animacy of the world, the life that pulses through all things, through pines and nuthatches and mushrooms. *This* is the language I hear in the woods; this is the language that lets us speak of what wells up all around us. And the vestiges of boarding schools, the soap-wielding missionary wraiths, hang their heads in defeat.

This is the grammar of animacy. Imagine seeing your grandmother standing at the stove in her apron and then saying of her, “Look, it is making soup. It has gray hair.” We might snicker at such a mistake, but we also recoil from it. In English, we never refer to a member of our family, or indeed to any person, as *it*. That would be a profound act of disrespect. *It* robs a person of selfhood and kinship, reducing a person to a mere thing. So it is that in Potawatomi and most other indigenous languages, we use the same words to address the living world as we use for our family. Because they are our family.

To whom does our language extend the grammar of animacy? Naturally, plants and animals are animate, but as I learn, I am discovering that the Potawatomi understanding of what it means to be animate diverges from the list of attributes of living beings we all learned in Biology 101. In Potawatomi 101, rocks are animate, as are mountains and water and fire and places. Beings that are imbued with spirit, our

sacred medicines, our songs, drums, and even stories, are all animate. The list of the inanimate seems to be smaller, filled with objects that are made by people. Of an inanimate being, like a table, we say, “*What is it?*” And we answer *Dopwen yawe*. Table it is. But of apple, we must say, “*Who is that being?*” And reply *Mshimin yawe*. Apple that being is.

Yawe—the animate *to be*. I am, you are, s/he is. To speak of those possessed with life and spirit we must say *yawe*. By what linguistic confluence do Yahweh of the Old Testament and *yawe* of the New World both fall from the mouths of the reverent? Isn’t this just what it means, to be, to have the breath of life within, to be the offspring of Creation? The language reminds us, in every sentence, of our kinship with all of the animate world.

English doesn’t give us many tools for incorporating respect for animacy. In English, you are either a human or a thing. Our grammar boxes us in by the choice of reducing a nonhuman being to an *it*, or it must be gendered, inappropriately, as a *he* or a *she*. Where are our words for the simple existence of another living being? Where is our *yawe*? My friend Michael Nelson, an ethicist who thinks a great deal about moral inclusion, told me about a woman he knows, a field biologist whose work is among other-than-humans. Most of her companions are not two-legged, and so her language has shifted to accommodate her relationships. She kneels along the trail to inspect a set of moose tracks, saying, “Someone’s already been this way this morning.” “Someone is in my hat,” she says, shaking out a deerfly. Someone, not something.

When I am in the woods with my students, teaching them the gifts of plants and how to call them by name, I try to be mindful of my language, to be bilingual between the lexicon of science and the grammar of animacy. Although they still have to learn scientific roles and Latin names, I hope I am also teaching them to know the world as a neighborhood of nonhuman residents, to know that, as ecotheologian Thomas Berry has written, “we must say of the universe that it is a communion of subjects, not a collection of objects.”

One afternoon, I sat with my field ecology students by a *wiikwegamaa*

and shared this idea of animate language. One young man, Andy, splashing his feet in the clear water, asked the big question. “Wait a second,” he said as he wrapped his mind around this linguistic distinction, “doesn’t this mean that speaking English, thinking in English, somehow gives us permission to disrespect nature? By denying everyone else the right to be persons? Wouldn’t things be different if nothing was an *it*?”

Swept away with the idea, he said it felt like an awakening to him. More like a remembering, I think. The animacy of the world is something we already know, but the language of animacy teeters on extinction—not just for Native peoples, but for everyone. Our toddlers speak of plants and animals as if they were people, extending to them self and intention and compassion—until we teach them not to. We quickly retrain them and make them forget. When we tell them that the tree is not a *who*, but an *it*, we make that maple an object; we put a barrier between us, absolving ourselves of moral responsibility and opening the door to exploitation. Saying *it* makes a living land into “natural resources.” If a maple is an *it*, we can take up the chain saw. If a maple is a *her*, we think twice.

Another student countered Andy’s argument. “But we can’t say *he* or *she*. That would be anthropomorphism.” They are well-schooled biologists who have been instructed, in no uncertain terms, never to ascribe human characteristics to a study object, to another species. It’s a cardinal sin that leads to a loss of objectivity. Carla pointed out that “it’s also disrespectful to the animals. We shouldn’t project our perceptions onto them. They have their own ways—they’re not just people in furry costumes.” Andy countered, “But just because we don’t think of them as humans doesn’t mean they aren’t beings. Isn’t it even more disrespectful to assume that we’re the only species that counts as ‘persons’?” The arrogance of English is that the only way to be animate, to be worthy of respect and moral concern, is to be a human.

A language teacher I know explained that grammar is just the way we chart relationships in language. Maybe it also reflects our relationships with each other. Maybe a grammar of animacy could lead us to

whole new ways of living in the world, other species a sovereign people, a world with a democracy of species, not a tyranny of one—with moral responsibility to water and wolves, and with a legal system that recognizes the standing of other species. It's all in the pronouns.

Andy is right. Learning the grammar of animacy could well be a restraint on our mindless exploitation of land. But there is more to it. I have heard our elders give advice like “You should go among the standing people” or “Go spend some time with those Beaver people.” They remind us of the capacity of others as our teachers, as holders of knowledge, as guides. Imagine walking through a richly inhabited world of Birch people, Bear people, Rock people, beings we think of and therefore speak of as persons worthy of our respect, of inclusion in a peopled world. We Americans are reluctant to learn a foreign language of our own species, let alone another species. But imagine the possibilities. Imagine the access we would have to different perspectives, the things we might see through other eyes, the wisdom that surrounds us. We don't have to figure out everything by ourselves: there are intelligences other than our own, teachers all around us. Imagine how much less lonely the world would be.

Every word I learn comes with a breath of gratitude for our elders who have kept this language alive and passed along its poetry. I still struggle mightily with verbs, can hardly speak at all, and I'm still most adept with only kindergarten vocabulary. But I like that in the morning I can go for my walk around the meadow greeting neighbors by name. When Crow caws at me from the hedgerow, I can call back *Mno gizhget andushukwe!* I can brush my hand over the soft grasses and murmur *Bozho mishkos*. It's a small thing, but it makes me happy.

I'm not advocating that we all learn Potawatomi or Hopi or Seminole, even if we could. Immigrants came to these shores bearing a legacy of languages, all to be cherished. But to become native to this place, if we are to survive here, and our neighbors too, our work is to learn to speak the grammar of animacy, so that we might truly be at home.

I remember the words of Bill Tall Bull, a Cheyenne elder. As a

young person, I spoke to him with a heavy heart, lamenting that I had no native language with which to speak to the plants and the places that I love. "They love to hear the old language," he said, "it's true." "But," he said, with fingers on his lips, "You don't have to speak it here." "If you speak it here," he said, patting his chest, "They will hear you."

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