

# BRAIDING SWEETGRASS

INDIGENOUS WISDOM, SCIENTIFIC KNOWLEDGE,  
AND THE TEACHINGS OF PLANTS



ROBIN WALL KIMMERER

*"A great teacher, her words are a hymn of love to the world."* —ELIZABETH GILBERT

BRAIDING  SWEETGRASS

Also by Robin Wall Kimmerer

*Gathering Moss*

BRAIDING  SWEETGRASS

*Robin Wall Kimmerer*



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For all the Keepers of the Fire  
my parents  
my daughters  
and my grandchildren  
yet to join us in this beautiful place



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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



## 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 earth to hand across years and generations. Its favored habitat is sunny, well-watered meadows. It thrives along disturbed edges.



## 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, "*Piganek!* 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.

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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 yous” 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