Introduction: Oak Trees Are a Food Plant

The acorn in my palm looked like all the others I'd ever crunched over carelessly in the driveway. It had a smooth, brown shell with a needle-sharp tip and an oblong shape. No cap, I noted, but there were plenty of those still attached in clusters to the branches swinging overhead, the leaves fluttering glossy green and some beginning the slow fade to burgundy. I crouched over the ruts of gravel flattened by cars and picked up a handful of nuts that had escaped the tires. One had a small crack; I inserted my thumbnail and pried open the shell. I wanted to see the nutmeat inside—the fresh, milky kernel that was the exact pale cream color of my father's favorite Virginia Diner peanuts, the ones he ate each evening.

I'd probably walked by several million—billion?—acorns since I was a kid: nuts lying on the pavement or nibbled at by squirrels or raked to the bottom of a leaf pile. They'd never seemed particularly noteworthy. But that morning, a friend had sent me a link to a TEDx Talk on eating acorns. I'd watched it at my desk and immediately closed my laptop and walked out to the driveway. Really? I thought, as I held up the kernel. All along, this has been food?

Standing, I put a bit of the nutmeat in my mouth and nibbled tentatively. Bitter, yes. But edible. What had the woman in the video said? Acorns, like olives, need leaching—a good soak in cool water—to render them sweet and delicious. Fresh off the tree, just like olives, they're full of bitter tannins. I laughed,

remembering my husband's face when he'd tried picking an olive straight from the tree in Italy. *Blech!* He'd bent over and puckered up, spitting and spitting. You can't just *eat* the olives, the farmer at the market in town had told us; you first have to *cure* them.

But once you soak acorns, you *can* eat them, an astonishing truth that had landed on me just half an hour earlier. Like the squirrels that scampered up and down the trunks of the oaks outside my bedroom window, the flocks of turkeys that roamed our lawn, and the deer that skittered up into the woods while my husband, Alex, and I waited with our girls in the early dawn for the school bus: we humans were meant to be acorn eaters. Most of us in the Northern Hemisphere had been for thousands of years, until recently.

Rolling the acorns in my palm like small nuggets of gold, I walked into the kitchen, cracked them open one by one, and separated the nutmeats from the shells. Then, spotting my daughter's water glass still sitting on the table from breakfast, I dropped in the pale kernels. *Change the water a few times a day until they taste sweet*, the woman had said. And so began my education in eating acorns.

The woman in the video was Marcie Mayer, an expat who lives on a remote Aegean island in Greece and works as what she calls an Acorn Ambassador. That early fall morning in 2019, as I watched her describe turning acorns into flour, I'd sat rapt at my desk, thighs glued to the chair. "I'm talking about those troublesome nuts that have to be gathered up and thrown away from around the oak trees every autumn," Mayer told the audience.[2] "The ones the squirrels love."

"You were probably told not to eat acorns because they are toxic," she went on. "But acorns are not toxic. They are delicious. They are nutritious. They even qualify as a superfood." Mayer explained that she learned about eating acorns as a kid in northern California, where, for millennia, Indigenous Peoples

have relied on them as a staple crop—an everyday food like corn or wheat.

"What?!" I'd gasped.

Acorns, of course, come from oak trees. And I live in a Cape Cod oak forest—a forest I have long lamented for its lack of agricultural possibility. Staple crops, I'd always understood, grow in fields. Fields for agriculture have long felt to me both inevitable and awful—a sort of necessary tragedy. As a reporter focused on food and the environment, I was weary of reporting on our industrial agricultural fields and the many ways they are failing—failing farmers, failing eaters, and failing the planet.

I knew the statistics: Farmers are dying by suicide at rates 3.5 times higher than the national average because of the economics of our current agriculture.[3] These same economics have driven farm debt to an all-time high of $540.8 billion (and rising),[4] and have wiped out more than 140,000 farms in the past five years.[5] Our current agriculture is making the American public sick, with our own government estimating that about half of us suffer from diseases related to our food.[6] And the industrial agricultural system is wreaking havoc on our carbon, nitrogen, and water cycles as fertilizers run off into our waterways and ammonia, nitrogen oxides, and carbon dioxide off-gas into our atmosphere.

I was tired of telling these stories. And I was heartbroken over the fact that because we needed these staple crops, we were failing to keep our home planet habitable for ourselves and its many other species.

Now, in the astonishing span of her 8.5-minute talk, Mayer had thrown me a lifeline. Getting up from my desk and stepping outside, I walked beneath the canopy of white oaks that line our driveway and looked at them with new eyes. Suddenly, instead of squirrel food, I saw hope. Instead of a heavy weight of environmental dread and guilt, I felt light. I imagined, perhaps for the first time, the natural world as a place that could feed us, instead

of a place that in order to eat, we had to destroy. It had only been a few minutes since I'd heard Mayer say the words *we can eat acorns*, but already the knowledge was burrowing deep into my body, shifting beliefs I'd held my whole life.

Four years later, I sat in the shade in the same spot in the driveway, paging through a well-worn cookbook, *The Forager Chef's Book of Flora* by Alan Bergo. I flipped through it for the hundredth time, in search of what I've come to think of as The Mantra—the opening sentences to Bergo's section on acorns.

"*Oak trees. Are a food plant. Oak trees are a food plant. Say it a couple of times*."[7]

To do so, I've come to believe, is an act of revolution. To say the words and especially to share them is to tug at the strings holding together modern Western culture. It is to unravel an entire mythology—the stories I grew up with and the beliefs that shape them. To say the words cuts straight to the center of our most basic understandings of what it means to be human.

Why? Let's dig in.

1

No Farms, No Food

One of my earliest toys was a Fisher-Price Family Farm. There was a red plastic barn filled with plastic animals: two chickens, a horse, a cow, a pig, a sheep, and a watchdog. The doors to the barn "moo-ed" when they opened, and the all-American (read: cis-male and white) farmer in denim overalls and a straw hat drove between white picket fences and a tall red silo for grain. This beloved toy, a gift from my godfather on my first birthday, was the cornerstone on which my earliest understanding of "farm" was built.

The dictionary description of a farm is similar: *an area of land and its buildings used for growing crops and rearing animals, typically under the control of one owner or manager*. Farms, I learned as a kid in Maine, are where human food comes from. This was certainly true for my family. The vast majority of our calories came from farms. Living on the coast, we ate fish and occasionally lobster and clams, but most of our meals were centered on grains: breads made with wheat flour and cornmeal, cereal made with oats, and dinners with rice, barley, or pasta. The veggies that accompanied these meals—familiar plants like broccoli, lettuce, spinach, bell peppers, carrots, potatoes, green beans, cucumbers, eggplants, and tomatoes—came from tilled fields, too. So did the oils and legumes that filled our pantry shelves: staples like canola oil, dried beans, lentils, and canned chickpeas.

The meats and dairy we ate came from farms—butter and milk and chicken and bacon picked up mostly at the grocery store but also sourced through regular trips to the local farmers market. The growers I met there and the pictures they sometimes

shared of their fields all squared with both the dictionary definition of a farm and the plastic farms I played with and saw in picture books. "No Farms, No Food" read a green-and-white bumper sticker slapped onto many of these farmers' trucks. The phrase was a rallying cry to protect farmland from development, but I read it as a statement of the obvious. What else was there to eat?

Although my parents were not particularly religious, my grandfather was an Episcopal minister, and the oldest story I knew about our human relationship to food and farming was from the opening chapters of Genesis: the story of the Fall. Once, we lived in the Garden of Eden—a paradise filled with "every tree that is pleasant to the sight, and good for food," and God told Adam and Eve to eat from any tree they liked, except the Tree of Knowledge of Good and Evil. If they had followed those instructions, they would have been able to stay in Eden forever, nourished by those delicious trees. But alas, Eve couldn't listen. Tempted by the serpent, she picked the forbidden fruit, and God banished both her and Adam from the garden. "Cursed is the ground for thy sake; in sorrow shalt thou eat of it all the days of thy life," read the passage in the illustrated Holy Bible my great-grandmother gave my father, next to a vivid color illustration of two very coifed, beautiful, and ashamed-looking exiles headed out of a luscious forest.[8] From now on, God said, Adam and Eve must till the ground and eat the plants of the field. "By the sweat of your face you shall eat bread," the story concluded. In other words, Adam and Eve were once foragers in a beautiful forest tended by God, but when they disobeyed him, they became farmers as a punishment. The message sank in: Human hunger was inextricable from our sin.

This creation story dovetailed nicely with the history I learned in public school in Maine in the 1990s. According to my textbooks and teachers, the Neolithic, or Agricultural, Revolution began about twelve thousand years ago. Before that, most humans were hunter-gatherers. But after the last ice age, a huge shift in the way we produce food occurred. Foragers became

farmers. Some people believed this was a disaster—famously, scientist and historian Jared Diamond called farming "the worst mistake in the history of the human race," describing it as a catastrophe that brought with it social and sexual inequality, despotism, and disease.[9] Others saw farming as a triumph, a narrative best summarized by historian Yuval Noah Harari in *Sapiens: A Brief History of Humankind*: "Eventually, people were so smart that they were able to decipher nature's secrets, enabling them to tame sheep and cultivate wheat. As soon as this happened, they cheerfully abandoned the grueling, dangerous, and often Spartan life of hunter-gatherers, settling down to enjoy the pleasant, satiated life of farmers."[10] The merits of farming versus foraging have been debated regularly, but our modern opinions, my teachers informed us, are irrelevant since the shift was both irreversible and inevitable. As human populations and settlements grew larger, wild places—regarded as inherently unproductive—had less and less to offer us. We had to start cultivating what we needed. And once we did, there were too many of us to turn back the clock: We couldn't be foragers now, even if we tried.

I found versions of this narrative in the books I read as a kid. Growing up, I spent hours playing with a doll named Kirsten Larson. Kirsten was an American Girl Doll, one of three historical characters released in 1986 by the Pleasant Company. She came with a set of novels that told the tale of her family's immigration from Sweden to Minnesota to find farmland after a series of crop failures. When they arrived, they encountered an unnamed Indigenous culture whose people are described by the author as "hunters." Kirsten befriended an Indigenous girl her age named Singing Bird. As an adult, I see that this story is full of falsehoods, omissions, and erasures.[11] But as a kid, I did not pick up on the racial and colonial dynamics of the story. What I understood was that Singing Bird's way of feeding her family—hunting and gathering—was idyllic, but only possible for small groups of people living on large tracts of land. As more and more European settlers arrived, their growing populations put

pressure on the place, and the only way to feed all these people was to establish farms. Overwhelmed by humans, the land available for hunting and gathering became scarce. When Kirsten asks Singing Bird why her family is leaving, her friend replies, "Bad hunting." She and her people go west to less populated lands, "For buffalo, for deer."[12]

The idea of wilderness as inherently unproductive in comparison with farmland was hammered home by countless other stories. I remember my fourth-grade class reading *Lost on a Mountain in Maine*, a memoir by Donn Fendler. As a twelve-year-old, Fendler was separated from his family on a hike up Maine's highest peak, Mount Katahdin, and spent nine days wandering alone in the woods without food. It was July, not winter, but it still didn't go well. Fendler returned to civilization sixteen pounds lighter, having hallucinated and grown incredibly weak subsisting only on strawberries and other wild foods. Later on, in high school, my class was assigned to read the 1996 bestseller *Into the Wild*. In it, Jon Krakauer tells the story of Christopher McCandless, a young man who hitchhiked to Alaska determined to live off the land. He starved to death over the summer and was found four months later in an abandoned bus where he had camped out, his emaciated body decomposing in his sleeping bag.[13]

From my own experiences in the woods, I instinctively understood the lack of food for humans in wild places. My parents watch and study birds, and I grew up on eight acres of overgrown-farm-turned-forest on the coast of Maine. Sitting outside, or at our dining room table, my parents would explain how the birds were well adapted to this place. Sapsuckers used their chisel-like bills to drill neat rows of sap wells into birches and maples. Crossbills had mandibles perfectly adapted for extracting seeds from the cones of pines, hemlocks, and spruces. Each bird species had a habitat: a natural place that contained everything it needed to eat, mate, and build a home. So did the plants, mammals, and fishes.

But when I looked around, it was clear that my family had

a different relationship to the land: We did not source our food from our habitat; we sourced it from farms and grocery stores. And to create farms, I understood, we destroyed wild places. In school we learned that our farming contributed to this destruction in myriad ways: species extinction, deforestation, water pollution, the death of countless insects, and the greatest environmental specter of all—what scientists at the time called global warming. I was devastated by the idea that our simplest need was creating all this loss.

Next door to our rambling land was a conservation property—another eight acres set aside specifically to keep it safe from our own species. Human destruction, I was told repeatedly, was rampant. What I learned in school about protected places confirmed this. "A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain," declared the Wilderness Act of 1964.[14] Earth and its community of life did not seem to include us. I loved the birds, trees, and wildflowers of the woods around my home. I didn't want to trammel any of them. But I did need to eat.

The feeling that there must be something fundamentally wrong with people—or at least all the modern people in the communities I was part of—grew inside me over the years. In the narratives I absorbed as a white, Euro-American kid, humans were almost always portrayed as ecologically negative. My teachers were constantly talking about the ways we were harming the earth: burning too many fossil fuels, dumping too many chemicals into rivers, clear-cutting too many landscapes, and spraying too many insecticides and pesticides. At home, my mother worried over the impact of our plastic use, endlessly reusing sandwich bags so that I carried my snacks to school in Ziplocs stained orange by last week's carrots. From the news, I learned about the hole in the ozone layer caused by humans. At Audubon day camp one year, I remember being thrilled to find a nest of

birds' eggs. "Don't touch them!" the counselors scolded. Even our human scent was bad, apparently, rotten enough to scare off bird parents. (This is not true, by the way.)[15] When I moved to Cape Cod after college, there were signs posted on the footpaths in the National Seashore around my house reminding us that the vegetation here "grows by the inch but dies by the foot." The human foot, that is. I lived inside a thudding, ever-present drum of stories of human negativity; a steady beat of narratives detailing our disastrous and devastating ecological impacts. What the world needed, it was always made clear by my stories, was less of us. We needed to buy less, clear less land for agriculture, travel less, and have fewer babies. The best thing we could do for the earth, if we couldn't fully disappear, was to make ourselves and our impact as small as possible. As Tasmanian author James Boyce has described the message of these stories, we were simply "born bad." "Original sin," he's written, "is the Western world's creation story."[16]

We seemed to be the only species without a habitat; the only species without wild, abundant foods; the only species destroying our home planet and the vibrant communities of life that cover it. This wasn't *just* because of our food, of course. I knew there were countless other ways in which we were wreaking environmental havoc. But many of those problems—like plastic pollution and car emissions—had developed only in the past hundred years. People like my grandmother held living memories of different ways of meeting these needs, which made these problems feel more fixable, at least if we could gather the collective will. Texts about the environmental devastation associated with widespread clearing for agriculture dated back thousands of years, all the way to the ancient Romans and Greeks.[17] What were we supposed to do about the fact that every day, multiple times a day, we needed to eat?

I decided to devote myself to learning about the best ways of farming—that is, the ways least likely to devastate a landscape. I discovered through the local food movement that the modern form of industrial agriculture that compels us "to eat as much,

as effortlessly, as thoughtlessly, and as cheaply as we can, to hell with whatever else may be involved," as farmer and writer Wendell Berry once put it, is not the only way.[18] On a massive scale, chemical- and antibiotic-laden grain and dairy farms might be producing the foods that have for decades dominated the shelves of our grocery stores, but the growing organic movement has slowly but steadily been reimagining this system. With organic agriculture, farms consider the health of the overall landscape as part of their operations.

During my junior year of high school, I spent a semester living and studying on a small organic farm just up the coast from my family's home in Maine, helping birth lambs and plant potatoes and start seedlings. The work we did there felt hopeful. Still, I knew the farm had changed the place: The natural state of most land in New England was forest. Clearing forests disrupted the water cycle, contributed to climate change, and destroyed habitat for a long list of species. My English teacher assigned our class William Cronon's landmark book *Changes to the Land*, which described the upending of New England's forest ecosystems in the wake of early Euro-American colonization. "Perhaps surprisingly," Cronon wrote, "the lumberer was not the chief agent in destroying New England's forests; the farmer was."[19] Already by the 1790s, regional deforestation was considered a major environmental problem. In cleared areas, formerly common game species became scarce. Widespread clearing affected local climates, warming and drying soils and making temperature fluctuations more intense. Removing the trees also significantly affected local hydrology. In one passage, Cronon quoted the observations of Noah Webster, born into a farming family in 1758 in colonial Connecticut:

> The amazing difference in the state of a cultivated and uncultivated surface of erth, iz demonstrated by the number of small streems of water, which are dried up by clearing away forests. The quantity of water, falling upon the surface, may be the same; but when land iz covered with

> trees and leevs, it retains the water; when it iz cleared, the water runs off suddenly into the large streems. It iz for this reezon that freshes [floods] in rivers hav becume larger, more frequent, sudden and destructive, than they were formerly.[20]

And I knew that in the 250-plus years since Webster made his observations, the environmental problems caused by farming have only grown worse. For starters, human populations have increased dramatically, intensifying land use and adding millions more mouths to feed. In the six states of New England, for example, the population increased between 1810 and 2010 from approximately 1.5 million to almost 14.5 million,[21] and the U.S. population as a whole increased during that time from approximately 7.2 million to 308.7 million.[22]

Immigration played a significant role in this growth, particularly in the years between 1847 and 1930, when millions of Europeans arrived in the U.S.[23] And with the nation's population growing so rapidly (it more than tripled between 1850 and 1900), it didn't surprise me that forests were rapidly felled.[24] According to the nonprofit Forest Historical Society, between 1850 and 1910, U.S. farmers cleared an average of 13.5 square miles of forest *per day* for agriculture, expanding the amount of cleared land by 190 million acres during that period.[25] The Forest Historical Society estimates that since 1600 about 286 million acres of forest in the U.S. have been converted to other uses, primarily cropland.[26] And while I learned that net forest loss to agriculture has stabilized since the 1920s, I also learned how the volume of fertilizers, pesticides, herbicides, machinery, and other industrial inputs used on the land has increased dramatically, causing new and ever-graver environmental woes.

Soon after I'd moved to Cape Cod, I got a job with my local National Public Radio station (CAI), interviewing farmers. I asked them about the plants and animals they chose, the ways they raised them, and the foods they made from their crops. Always a small, long-buried part of me hoped to find a path out

of the dismal reality I'd absorbed as a kid—that in creating farms, we destroy wild places. And I often heard stories about small improvements: new methods of composting that boosted plant productivity, disease-resistant and tasty heirloom varieties, or some interesting combination of cover crops that helped with soil health.[27] But the overarching narrative remained the same: Our hunger was destroying the earth, and we could either starve or keep farming. As the years went on, I slowly accepted this as fact. There is a thing called nature separate from humans, I believed, and we don't belong in it because it has almost nothing for us to eat. Our needs and the ways we must meet them, in fact, seemed so awful, inconvenient, and profoundly *unnatural* that I began to wonder if perhaps it might be better for all the other life on this beautiful, wild planet if we humans simply disappeared.