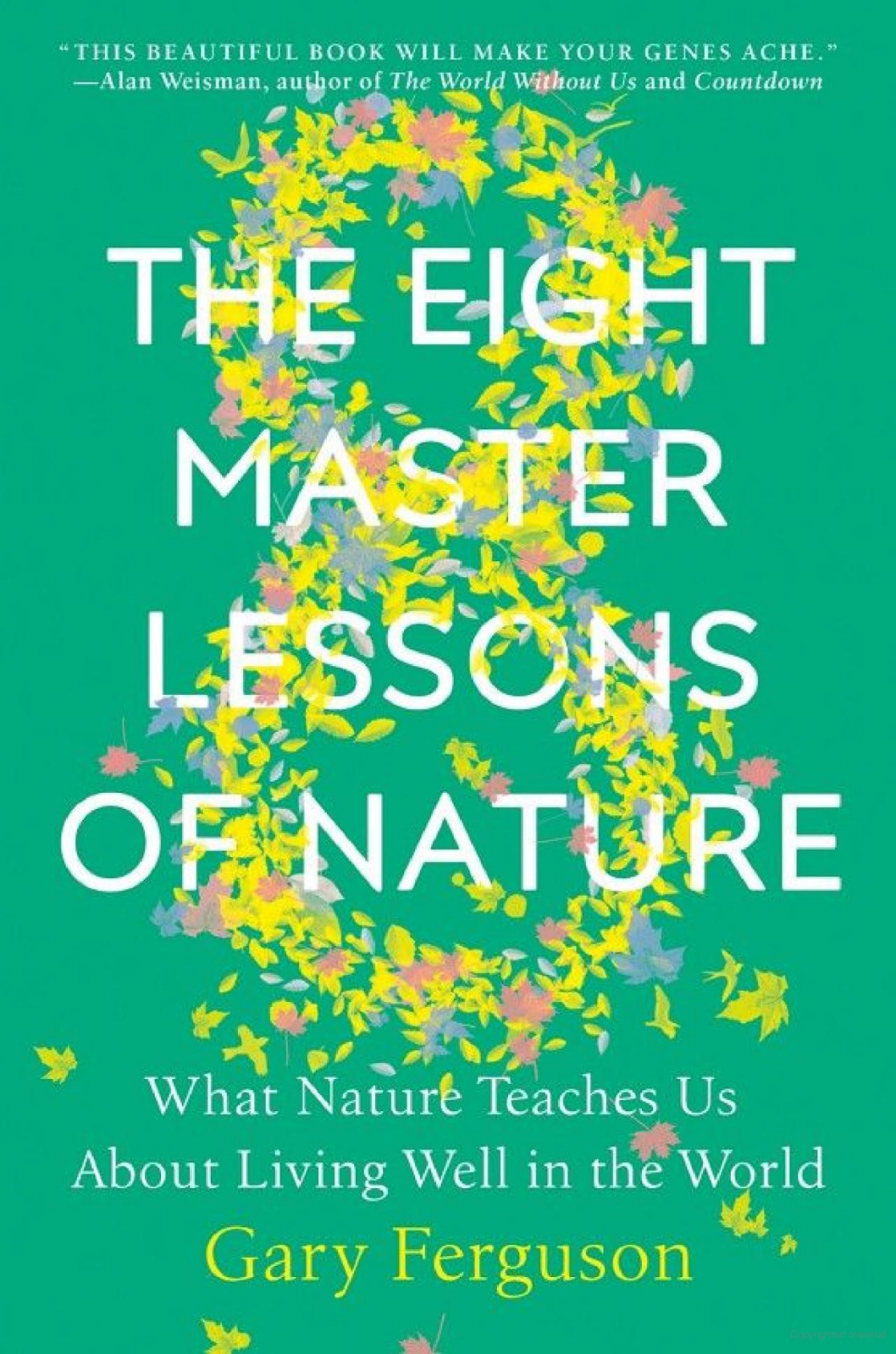
"THIS BEAUTIFUL BOOK WILL MAKE YOUR GENES ACHE."
—Alan Weisman, author of *The World Without Us* and *Countdown*



THE EIGHT MASTER LESSONS OF NATURE

What Nature Teaches Us About Living Well in the World

Gary Ferguson

DUTTON
An imprint of Penguin Random House LLC
penguinrandomhouse.com

LIBRARY OF CONGRESS CATALOGING-IN-PUBLICATION DATA
Names: Ferguson, Gary, 1956– author.
Title: The eight master lessons of nature : what nature teaches us about living well in the world / Gary Ferguson.
Description: New York, New York : Dutton, [2019]
Identifiers: LCCN 2019001906 | ISBN 9781524743383 (hardcover) | ISBN 9781524743406 (ebook)
Subjects: LCSH: Nature.
Classification: LCC QH81 .F377 2019 | DDC 508—dc23
LC record available at https://lccn.loc.gov/2019001906

Version_1

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PREFACE

Coming Home

There was a time long ago when the supple reach of trees and the whisper of water bore deep comfort. When the ringing of birds and the mutter of frogs reminded us to take heart in the fact that whatever else was happening, we were all still here, rising strong in the morning, faces to the sun. We knew the juice of spring then, surging in the wild rose and the fig, and in us too—we could feel it, as if we were somehow wed to the tender shoots, as if our own breathing was the great green breath of Earth. A time when a person barely knew where she ended and the world began. The shouts, the songs, the purring and the whirring—all of it an astonishing conversation.

From where we stand now, it can seem like a dream. But every so often, out of nowhere, the thrill of that old dance judders in our bones. It reawakens sensations we had within easy reach when we were young, still wide-eyed for the world.

My own inklings of such things came during a boyhood spent in the Midwest, in a small city in northern Indiana nursed on corn and casseroles and steel. A place where nature got served in teaspoons: A garden behind our house about the size of two couches laid end to end, where I first

stood barefoot and watched the comings and goings of butterflies and bees. A slim ribbon of grass where in the twilight of summer I scurried about with a jam jar, scooping up lightning bugs. And the sidewalks of Twenty-Seventh Street—walking home from school on some gloomy April afternoon with the wind in the maples, thrilling to big booms of thunder thunking inside my chest.

Around age eleven I started riding my purple Stingray ten blocks west to Potawatomi Park, a place laced with lines of oaks and maples with trunks so big I couldn't reach even halfway around them. And nearby, a greenhouse with a banana tree and orchids and an avocado tree. And next to that, a pocket zoo with a geriatric lion, six crowing peacocks, a display of roaches (really), and a snorting donkey.

As I have in adulthood spent some forty years waltzing through some of the world's wildest places, drifting along more than thirty thousand miles of trail through the outback, you might imagine I'd think of these modest encounters with nature when I was young as, well, quaint. But no. They were big: in their own way as vital as the yawning savannahs of East Africa or the high, lonesome roll of the Yellowstone backcountry or the cold, quiet reaches of the Arctic tundra.

The lightning bugs and the bees and the giant oaks at Potawatomi Park are what cracked me open, what introduced me to the ebb and flow of the world, to the daily playlist of chirps and buzzes and snorts and whooshes. Not just piquing my curiosity, but also leaving me with the extraordinary sensation of being a part of it all. The chrysanthemums in the flower box under my bedroom

window were somehow set to my own bright sense of summer. The cardinal in our maple tree wore a dazzling feathered suit that was my color of red. The mourning dove in the apple tree beside Carl and Yvonne Wilson's driveway cooed a song that even on first hearing was somehow familiar, reassuring.

No matter who you are, or where as a child you happened to live, more than likely you, too, took some of your first steps toward growing up and growing out because nature charmed you into the precious work of unfolding. Whether it comes in big helpings of the wild, or as a spider web in the corner of your garage, or even as dandelions growing out of the cracks in the sidewalk, nature calls to each of us.

And here's the thing: Despite what you might have been led to think, such magic doesn't just disappear, quietly drifting forever out of reach. After all, as we go through the various stages of our lives, we keep *adding to* what's come before, rather than replacing it. Wherever you are now, however urban or interior your life, nature is still there for you—anchoring, inspiring, helping you become more of what it is you set out to be. At the same time, the natural world remains a ready source of essential lessons, each one helping us better understand what life really needs in order to thrive.

Much of what follows is about catching up with what science is uncovering daily about how nature really works—and how you work too—using these discoveries to help us more fully comprehend what it means to be alive in this world. But these pages are also about befriending the powerful emotions that nature often ignites in us—trusting

them to guide us into the deepest, most satisfying parts of our being.

In the late 1990s I had the great fortune of meeting a quiet, graceful, intensely curious sixty-five-year-old man from Utah named Lavoy Tolbert. Lavoy was formerly a science teacher—awesomely popular with his students, many of whom are still in touch with him today. He spent his whole life roaming the wilds of the American Southwest. Even now, at eighty-five, he remains totally wed to the ground underfoot, spending nearly as many nights sleeping on a pad under the stars as on the mattress in his bedroom. During our time together I've heard him talk often about how for thousands of years people have gone to nature to figure things out, to make adjustments to how they understand the world, and from that, to refine how they live. So, too, for Lavoy. He says it's a case of credentials.

"Think about it. Out in nature you've got 4.6 billion years of success—the absolute best of everything. The finest the world has come up with, all around you, night and day. Go out for a stroll in the woods and you walk among champions!"

It's kind of like this farmer, he likes to tell me. Every week, month after month, year after year, the farmer takes his old plow horse to the racetrack to run against the thoroughbreds. One day a friend stops him, asks why he keeps paying entrance fees to run races he knows he'll never win.

"You're right about that," says the farmer, rubbing his chin. "That old horse ain't got a chance. But then he sure does like the company."

In the pages that follow, you too will be in some extremely good company: pieces of nature big and small—in the yard, in the park, in wild places, but also now and then hanging out with that vast web of nature inside of *you,* a being who in truth is another magnificent example of the power and grace of Earth's creative forces.

As much as anything, this is a book about coming home. Not just back to where you grew up—not only to the suburban split-level with the clipped lawns and the cement birdbath; not just back to the brick apartment building or the small white Craftsman house on a tree-lined street in the heart of the city. Not only back to the old farm with the barn and the green tractor and the moon-eyed cows. No, this bigger, deeper home has to do with the profound belonging that comes from recovering your natural camaraderie with the wonder of the planet. And then learning to use that camaraderie as a guide for your life.

On those days when we're overly busy—and right now it seems there are plenty of them—we can be hard-pressed to find time even to stop and turn our faces to the sky. Or notice the smell of rain. Or savor for a few seconds the sound of geese overhead, urging one another toward winter grounds. But here's something to ponder: The extent to which we've actually lost touch with the wisdom of nature may not be just about our being distracted. It's also about *how we've been taught to think.* We are like people throughout history, in that the lion's share of our beliefs about how the world works has been cobbled together from

cultural views and social mores, including scientific ones, passed down across the generations. When it comes to the nature of nature, and our relationship with the world around us, we've accepted an awful lot as being "just the way things are." And in fact they're nothing of the sort.

For example, one of the main currents—a kind of riptide, really—clutching at us for some two thousand years, is the idea that as humans we stand outside of nature. Above it. From that locus it's all too easy to end up passive toward, disconnected from, even bored by, the Earth.

At the same time maybe we've joined that group of resolute folks who long ago set off to master a fixed set of immutable laws of the physical universe, the goal being to gain control over what can be a maddeningly unpredictable life on a maddeningly unpredictable planet. And of course to no small extent we *have* gained measures of control. Our cleverness has given us mountains of useful things—from lasers to medicine, fast cars to cell phones, movies and blue jeans and rockets to Mars. Yet along the way we've partitioned and quarantined life—including ourselves—breaking it into smaller and smaller pieces because we think in the end this will yield certainty.

These worldviews aren't ultimate realities, but rather single strands of perception. Which means we can add to them. Growing our connections to nature will allow us to push past mere intellect to embrace sensory experiences, emotions, intuition. Of course we can continue to parse, to disassemble, to make predictions. But all that becomes more rightsize when we celebrate how much of life is mysterious, beyond anyone's capacity to understand. Curiously, while we often think of science as all about

answers, the science of today is very much about living with questions. For the first time, a large body of research is illuminating the fact that our world arises from a sprawling, highly dynamic set of rhythms and relationships. It's becoming ever more clear that in the truest sense there's really no such thing as a tree, a dog, a sunflower, a human. At least not in the way we've long thought of them, as stand-alone beings. We shape—and are thoroughly shaped by—the vast array of life-forms and processes with which we share this planet.

An especially intriguing aspect of this scientific shift—of this effort to break science out of the intellectual boxes we built for it—is the effort by some to merge traditional science with indigenous wisdom. Harvard ethnobotanist Shawn Sigstedt, for example, was, in the 1990s, one of a growing number of non-native researchers to begin working alongside native scientists, including celebrated Hopi tribal member Frank Dukepoo, a professor of genetics at Northern Arizona University. Sigstedt said the collaboration expanded his perspective in a way that helped him see the world through the lens of connection.

"Traditional culture has helped us realize our blind spots," Sigstedt noted. "The Native understanding of the world—as a place of process and relationship—is completely different than our own." As a result, Sigstedt began designing research around very different questions.

And by changing what we ask, we change the world.

As MIT systems scientist and bestselling author Peter Senge points out, a key effect of our having lost touch with the totality of nature is that we've lost the ability to perceive *interdependence*. Most of us just don't see it.

Embracing interdependence lets us move beyond the knowledge of what makes something tick into how that something is able to keep on ticking. And that, as science is now showing us, always comes down to connections: from the fungi in the forest that nutrify the soil to the trees that sprout and grow from that nitrogen to those trees then exuding the very oxygen that allows you to find your next breath.

A number of years ago, while teaching a nature writing class in Yellowstone National Park, I had the great pleasure of having as one of my students Sister Helen Prejean. By the time we met, Sister Helen had already gained acclaim for her work helping the severely troubled and down-and-out, including her correspondence with two convicted murderers, Elmo Sonnier and Robert Willie. Those conversations ended up being the genesis for her remarkable book, and later the movie, *Dead Man Walking*.

On our final day together, the group was out hiking along the Specimen Ridge Trail toward Amethyst Mountain, the land before us awash in glorious views of the Serengeti-like grasslands of Yellowstone's Lamar Valley. Clusters of bison milled about the valley floor. Small groups of pronghorn rested along the edges of the aspen woods, while overhead red-tailed hawks pirouetted on the wind. At one point, pausing to savor the view, Sister Helen brought up the religious concept of annunciation. I'd only ever heard the word used in doctrinal terms, as in the Christian celebration of the angel Gabriel telling Mary she was destined to give

birth to the Son of God. But Sister Prejean had a much broader take. She said that to her, annunciation was the act of making something fresh, of bringing an ideal more fully to life by making it real in our everyday world.

Held in her take on annunciation lies a beautiful opportunity to respect the planet in the way the ancient Greeks defined respect—which was to "look again." Indeed the time is very much here to look again—and in doing so, to begin putting the world back together.

I once stumbled across a story from the early 1920s about a young anthropologist sent west to California by Harvard University, there to begin chronicling the lives of the Pit River Indians—a culture hovering on the brink of extinction. Over months he recorded their language, learned whatever stories they were willing to share, and made extensive notes about many of their social customs. At one point, sitting in the sagebrush at the edge of a village with a group of tribal elders, he asked about their word for newcomers to the land—people like his own family and colleagues, descendants of Anglos from Europe and England.

He later recalled how the tribal leaders looked at one another, shook their heads, refused to answer. Finally, after a lot of cajoling, one of the old men took a deep breath and began to speak:

"Our word for your people is *inalladui,*" he said. "*Inalladui.*"

It's easy to imagine the young anthropologist repeating the word, savoring the liquid sound of it.

"What a lovely expression," he might have offered. Which would've surely left the elders rolling their eyes.

"It means tramp," the old man continued. "Someone not at home in the world. Your people move across the land in such a hurry. You have no interest in making connections with the animals or the plants or the people who live there. This we cannot understand. We think a part of you must be dead inside."

In a sense the Pit River Indians were right: For a very long time a part of us has been dead inside. Or at least dead to many of the essential energies that sustain our mental and physical health. As Jane Goodall observed, "We seem to have lost the connection between our clever brains and our hearts." The task isn't to strive for something brand-new. After all, where would this brand-new something come from? Rather it's time to wake up the tissues of perception that have been there all along.

We *are* nature.

When we stand firm on that undeniable fact, shedding the long-standing illusion that there's nature "out there" and then there's us "in here," we'll be able to see in a new light some of our most troubling, persistent problems. And at the same time, just as important, we'll find assurance that on the very deepest level we have absolutely everything we need.

It really is possible to mend our relationship to the world around us and, through that mending, release an intelligence millions of years in the making. The journey begins with eight lessons—each one a window into seeing

both outward and inward at the same time, views that afford a very different reality than the one we settled for all those years ago.

LESSON ONE

Mystery: Wisdom Begins When We Embrace All That We Don't Know

> As we acquire more knowledge, things do not become more comprehensible, but more mysterious.
>
> —Albert Schweitzer

When Albert Einstein got stuck on a problem—and truth be told, he got stuck quite a bit—he'd often go outside. Not to some remote wild landscape but to a little patch of forest on the Princeton campus, maintained especially for him, known as the Institute Woods. You might assume he was merely trying to clear his head, as a lot of us do when we step out for a quick change of scenery. But it's a more intriguing story.

Once out in those familiar woods, Einstein was said to stop and look around, taking in the trees and shrubs, the sky overhead, and the grasses underfoot. At first he'd try to imagine the workings of it all, knowing full well he couldn't do it. Consider that even today, more than sixty years after his death, we still don't fully understand everything that's happening in a square yard of dirt, let alone a patch of woods. But that was the point: He wanted to *intentionally* overwhelm himself. Get disoriented. Blow his mind. And

thus, with his intellect brought to its knees, Einstein consistently found himself in a freer, more intuitive space.

Look deep into the mysteries of nature, he liked to say, and then you will understand better.

Einstein, like many other great scientists, knew that no problem was ever solved on the plane where it first revealed itself. So he used the woods to lift himself to a higher place, one less defined and more creative. Touching the considerable mystery afforded by that modest grove of trees allowed him to connect with what he considered "the source of all true art and science." He said as much to his students too, advising them that if they had a choice between gaining knowledge and maintaining a relationship with mystery, they should choose mystery.

That kind of choosing requires a very different kind of intelligence than the one with which the culture of Einstein's time was familiar, or even comfortable talking about. Yet he was absolutely certain that those who wouldn't or couldn't connect with mystery were "if not dead, then at least blind."

Albert Einstein isn't the only superstar with a penchant for dialing into mystery. Peering into the heavens at night, Carl Sagan claimed that science wasn't only compatible with mystery but was a profound source of it. The mystery that's revealed, he said, "when we recognize our place in an immensity of light-years and in the passage of ages, when we grasp the intricacy, beauty, and subtlety of life . . . is surely spiritual."

Contemporary physicist Edward Witten, long a champion of string theory and arguably one of the smartest humans on the planet, sees mystery at the most fundamental layer of

human existence. Meanwhile, Jane Goodall remains unwilling to explain life through truth and science alone. "There's so much mystery. There's so much awe."

If we're to make friends again with mystery, we'd be smart to learn something about where it likes to show up. One place it feels totally at home, of course, is in the arms of wonder. Which is lucky, because in truth we live in a time of extraordinary "scientific wow!" Who wouldn't be a little thrilled to learn that spiders can fly by employing electrical charges in the atmosphere? Standing on their hind legs, they cast silk into the air. That silk is negatively charged and repels similar negative charges in the surrounding atmosphere, sending the spiders ballooning into the heavens. Or who wouldn't feel a twitch of bewilderment to think that 99.99999 percent of our body is comprised of the empty space that exists between the electrons, neutrons, and protons—each one of those an element of the atoms that give us form. Furthermore, if you got rid of all this space, then the actual mass of your body—your "substance"—would be so small you couldn't even see it. In fact, if we took away all the space in all the bodies of every human being on the planet, the mass that remained would be about the size of a sugar cube.

Think, too, for a minute about the fact that as you walk down the street today you won't really be making contact with the ground. Rather, the magnetic force of the electrons in your shoes will be pushing away the electrons in the pavement, which means that at a supremely close-up level you really aren't walking through your life with your feet on the ground at all. You're floating. And then, of course, that old favorite: the fact that you could blast off from Earth on a

journey to find the end of space, travel a hundred thousand miles an hour for the next ten thousand years, and not be one inch closer.

Or how about the extraordinarily curious fact that any of us is here at all? If the gravity in the universe had been stronger by just a tiny bit, then the stars that formed because of that gravity would have been much smaller. Our own sun might have lasted for only ten or twenty thousand years, fizzling out long before we humans or any other creature had a chance at life. Likewise, if the strength of the force that binds the nucleus of an atom were just a wee bit weaker, there wouldn't be the current range of chemicals in the universe. And without that perfect array of chemical complexity: no life.

Far from disenchanting nature, as early scientists of the seventeenth century pledged to do, contemporary biology, physics, medicine, and ecology are admitting its enchantment all over again, inviting us with every passing year to perceive a more unbridled universe. In recent decades especially, scientists have found themselves looking beyond the desire to hold reality still, drawn instead to the mysterious and fluid nature of the planet and the life it sustains. Showing us with every passing day how the physical and even psychological functions of this life are vigorous, dynamic, and effervescent.

The discoveries of modern science are more than fantastic enough to explode our intellects, which is really the first order of business when it comes to befriending mystery. But

you can't really see mystery face on. It takes looking sideways, like the way you can only see certain faint stars by glancing slightly off center. The trick, in other words, is to manage the tools of perception.

Our perception expands when we realize that nature is engaged in a very big game of passing things back and forth—a mysterious ebbing and flowing, an appearing and disappearing act once described by philosopher Neil Evernden as the rhythm of exchange. One thing talks while another listens. One thing touches ground while another lifts off and flies. One part of the system waxes while another wanes. One thing dies and another is born.

When we link this rhythm-of-exchange idea to the concept of nature in ancient Greece—*phusis,* which refers to nature as life emerging from itself—what begins to shimmer on the edges of our imaginations is an unflagging set of symphonic movements all linked together to create the vast, incomprehensible weave that both holds and extends far beyond the more obvious anchor points of daily life. In truth, your very existence depends not so much on "things" as on rhythms of relationship that transcend the boundaries of your skin. It's a mind-boggling set of interactions that renders everything inside you and around you different this day than the last, all of it shifting and emerging and passing away.

So if this is how the world is—such a grand river that you can't immerse your foot in the same place twice—how come we have such a hard time seeing it that way? For starters,

consider that while Albert Einstein, Jane Goodall, and Carl Sagan were building their perception and ultimately their inspiration from what can't really be known, embracing mystery at every turn, key parts of society were preoccupied with essentially organizing the closet. And our educational systems in particular were being reworked by folks with some of the tidiest closets of them all. Too often, schools clipped the wings of wonder in our children and taught them instead to regurgitate facts. In musical terms, you might say the school orchestra handed us a stick and a plastic tub to beat on, when what we were born for is a grand piano.

To be clear, education wasn't always like this. There were times when we acted differently, when we chose to strengthen that wonder. Like the enthusiasm in the United States between roughly 1910 and 1920 for planting school gardens. While the movement was prompted in part by people leaving farms and taking up lives in the city, it had to do with a lot more than making kids aware of where their food came from. Much like the modern school garden movement of our own time, gardens back then were seen as a way to build on children's natural connections to nature, using that as a baseline for nourishing curiosity. And curiosity was considered essential for fostering critical thinking skills.

To be sure, over time a child might well come to see why a butterfly visits only certain flowers in the garden, grasping that it's the only insect with a proboscis long enough to reach the nectar. But long before that there would be the butterfly itself, dancing on velvety wings the color of twilight and autumn leaves, igniting an eagerness to look

deeper—and by looking deeper, to begin to learn. As biologist Rachel Carson said, when it comes to guiding children, it would help to remember that it isn't half so important for them to know as to *feel*.

"If facts are the seeds that later produce knowledge and wisdom," Carson said, "then the emotions and the impressions of the senses are the fertile soil in which the seeds must grow."

She was right. She still is. In fact a recent study by the American Institutes for Research shows that kids who participate in outdoor classrooms on average improve their science test scores by a remarkable 27 percent.

As for me, I was lucky. I had a little garden in the backyard, some trees, and a few good teachers. Stuff grew. By the time I was sixteen I could talk about all sorts of things going on outside. I'd take you to the six rows of peas in my mom's tiny vegetable garden, dig down into the dirt with a trowel, and show you a tangle of roots covered in little bumps and nodules. Thanks to my science teacher Mr. Longenecker, I'd be able to tell you about how those nodules are the product of another life-form, a bacteria that secures nitrogen from the soil, and further, that this nitrogen is an absolutely terrific fertilizer. We could talk about how bacteria thrive by feeding on the starches and sugars generated by the pea leaves. And even cooler, that those leaves are feeding aphids, the aphids are feeding the ladybugs, and the ladybugs are feeding the robin that wakes me up every morning of summer singing his heart out from the maple tree.

By age twenty, with two years of college under my belt, I could have told you even more. Had I noticed the ants

you—the kid who was doing the looking. Right now you may feel like that kid is long gone. But that's not really possible. Across a lifetime we'll add countless pieces of knowledge and perspective to who we used to be. Yet the ability to be nudged by curiosity closer to the world, to lead first not with intellect but with wonder, is still within your reach. And even better, as an adult you can consciously weave your innate sense of wonder into every aspect of your life—strengthening your sense of contentment, enlivening your relationships. In the end it comes down to engaging your ability to consider the world more broadly and deeply—talents of perception that got obscured by the demands of modern life.

Putting Your Senses to the Task

Back in the late 1970s, not long after I began my footloose wanderings through the wilds of the Rocky Mountains, I found myself stopping now and then to close my eyes and listen to the wind. In fact I became something of a wind connoisseur. Wandering the Sawtooth Mountains of Idaho or the chiseled peaks of the Tetons, I began to hear the wind as breath—inhaling up the canyons in the morning and then exhaling across the high meadows in midafternoon. What's more, the spill of those winds, fed by the warming and cooling of the day, made different kinds of music depending on what branches and leaves and trunks happened to be living there. There was the hard whispering song of the lodgepole pines, as well as the wavelike hiss of the Douglas fir. There was the stream-like babbling of aspen leaves,

which was entirely different from the sharp, driving rhythms of the speckled alder. In the lowlands was the stiff, whipping sound of sagebrush and the contented rustle of wheatgrass. Then, near the top of the world, just below the tundra, I could hear the music of subalpine fir, tuned by the fact that the windward branches were pruned away by harsh weather, leaving only the downwind growth to twist in the air.

By that single, simple act of broadening one of my senses, I began to hear other sounds lifting out of the background: Pinecones chewed off the trees by red squirrels, tumbling down through the branches to land in the needles with tiny, blunt puffs. The gentle squeak and moan of tree trunks rubbing against one another in the distance. The trickle of a water seep. The sweep of raven wings passing overhead.

And so it goes, too, with touch. The cool, moist air by a creek against your skin. The sun's warmth on your eyelids. The furrowed bark of an old oak under your fingertips. The smooth, powdery coating on the trunk of an aspen or paper birch. The cool, dew-covered grass against the bare soles of your feet.

Then there's nature's vast array of scents: The vanilla of ponderosa bark; the lingering sweetness of evening primrose and mock orange; the dry pepper of pine needles and the sharp tang of sage; the sumptuous, intoxicating smell of a meadow after a good rain. Roses. Sweet clover. Dandelion leaves. All best savored with eyes shut, much as we might approach a Sunday morning cup of coffee or a pan of cinnamon rolls fresh from the oven.

There's so much to recommend the sound, smell, and touch of nature, yet most of us tend to be focused on how it

looks. How else could we swoon over the amber wash of autumn light in a forest, or follow the dance of birds coming home to their evening roosts? How would we be awestruck by deer in effortless flight over fences and fallen trees, or by the procession of shapes forming and dissipating in the summer clouds? Still, when it comes to the mysterious, relying on vision alone can be a bit of a liability. A bridle on the brain.

As it happens, that particular bridle was first yoked to our powers of attention by the early Greeks.

Imagine walking through ancient Athens some fine spring day. Long, well-tended strips of garden border the cobbled pathway, threaded with apple blossoms and marjoram and thyme. Just ahead, around a slight curve, a set of stone steps leads down to a small theater where the much-admired scholar Anaxagoras is sitting with a dozen eager young students. As often happens, one of those students—curious in that restless, urgent way of youth—cuts right to the chase:

"What is the reason for a human life?" he asks Anaxagoras.

Anaxagoras doesn't miss a beat.

"To look," he says. "To look at the sky, the stars, the moon, and the sun."

The scholars of ancient Greece did an awful lot of looking. And by means of their patient, dedicated eyeballing they managed to puzzle out all kinds of things: divining an explanation for lunar eclipses, speculating about meteors

and lightning and rainbows, watching how water moved and harnessing it to drive everything from mills to pipe organs. They took hard, deep looks at things with the intention of discovering verifiable reality. And that proved the foundation for enormous accomplishments. Our own science still revels in it to this day. A century after Anaxagoras sat on those stone steps teaching his students, Aristotle would declare that the most perfect existence for a human was the theoretical life—from the Greek word *theoria,* to *look*. And specifically to look in a way that was attentive but at the same time always independent. Clearly removed from what was being looked at.

It was a specific kind of vision. And now it's ours. Deeply rooted in the belief that there's an observer separate from the observed. The so-called objective gaze. A means of disconnection. The bridle.

No need to discount what such a learning approach can yield. Still, it's very good news that today's science is jettisoning the belief that this kind of seeing represents all we can ever know. While it's taken us a very long time to admit, objectivity never was the whole story.

Think of a three-year-old girl finding herself one sunny morning at the foot of a big pine tree—one she's never seen before. The ancient Greeks, and those of us who followed in their footsteps, would say what she learns about the tree in that moment comes from straightforward, outer-focused observation. This tree is taller than the one over there but shorter than the one in her front yard.

But now we're starting to understand something rather different is going on. Instead of merely observing the world, she's likely experiencing the uprightness and height of the

tree in front of her by subconsciously *feeling* it as it relates to her own position and height in the world. In other words she's having not just a cognitive brain experience, but one driven by her whole body.

Her connection with the tree gets sent to her brain not as a photograph that can be compared to other tree photographs, which is what the objective gaze expects, but as multisensory packets of information. Twenty years later, given the right trigger—maybe the smell of sap, or even craning her neck to look at the upper branches of another tree—those packets from that pine tree long ago may be instantly animated, enriching the young woman's moment with a rather mysterious blend of comfort and complexity.

Rather than our thoughts being disconnected from our bodies, as we've assumed from Greek times, they may at times be *driven* by our bodies. That suggests an interesting idea. By putting your body in nature, and once there engaging the full range of your senses, you may well be assembling powerful packets of symbols by which you can lay down a very different, very intriguing new way of experiencing the world and its mystery in the days and years to come.

Closing your eyes every so often and employing touch, hearing, smell, or even taste breaks down your visual bias. Scent and touch and sound are less bound up in the way vision is. When we close our eyes and nudge our noses against a wild rose bloom, after all, there's really not any notion of there being a smeller and a smelled. Instead we end up engaging in a way that allows the enchanted sensation of mutual embrace.

down to the work of applying solutions. Then that evening, on your way home from work, if you see cars backed up to Hampton Avenue, past experience may tell you that the northbound interstate is likely choked with traffic. Using your frontal lobes, you decide instead to go by way of Martin Luther King Boulevard. By employing frontal lobes, we can segment the world, holding in relative isolation those things that need immediate attention.

Even animals do it. Mervin the cat, having suffered even once the wrath of Hank the bulldog next door, will file that experience away and run off like a shot at the mere sight of him. By categorizing Hank as dangerous, Mervin keeps from getting thrashed. Likewise, wolves that have been exposed to hunters and trappers, witnessing firsthand what human hunting does to their packs, will quickly learn to go into extreme stealth mode whenever people are around. By contrast, if your golden retriever—a distant relative to those wolves—gets treats from your sister whenever she comes by your house, rest assured he'll be at her side as soon she walks through the door. Your dog categorizes your sister—and possibly anyone with her—as a fun human packing treats. And that works out fine. Categorizing comes from a place of perceived certainty. It attaches to things that you, or your cat or your dog or those wolves, don't have to invest time and energy thinking about.

But as useful as categorizing is, that usefulness can fall apart fast when we apply it to things about which we can't be certain at all. Like any part of life that contains mystery. In categorical thinking the boundaries are drawn. But mystery is open-ended, messy, full of promise, and lacking in certainty.

Making too much of your thinking categorical, walling off any possibility that life has a kind of unknowable wildness to it, can lead to sadness and discontent. Cambridge University psychologist John Teasdale found that therapy patients with an "absolutist, dichotomous thinking style" (what I'm calling categorical thinking) were at significant risk of depression. Likewise, neuroscientists at the University of Reading in the United Kingdom discovered that the use of absolutist words in language—like "you always" or "every time" or "never"—may predict mental distress. In their study of sixty-four hundred people in online mental health chat groups focused on personal depression and anxiety, absolutist language was 50 percent higher than in the population at large. In suicide-focused groups, it was 80 percent higher.

Categorical thinking and binaries make life brittle and less interesting. And as Harvard chemistry and physics professor Eric Heller reminds us, "Be careful how you interpret the world. Because it *is* like that."

There's just no better place to go for a vacation from binary and categorical thinking than nature. Even if our habitual minds lead us into the woods with thoughts that deer and hawks and strawberries are good, while flies and mosquitoes are bad, any real inquiry, while not making us any fonder of the bugs, would yield at least a slightly expanded sense of nuance. Flies are the primary pollinators for everything from orchids to trilliums, and what's more, as decomposers they're absolute masters at preparing dead