

Praise for *Your Guide to Forest Bathing*

"In this book, Amos Clifford offers a delightful introduction to the healing power of forests—and to the natural world that supports wellness in our stress-filled society."

—**Yoshifumi Miyazaki**, PhD, Chiba University, Japan,
forest medicine researcher, and author of *Shinrin Yoku: The
Japanese Way of Forest Bathing for Health and Relaxation*

"John Muir once said, 'between every two pine trees is a doorway leading to a new way of life.' Now Amos Clifford has given us a beautiful and inspiring guide inviting us to seek out the trees and let the healing happen, both for us and for our beleaguered ecosystems. Grab this book and head outside."

—**Florence Williams**, author of *The Nature Fix: Why Nature
Makes Us Happier, Healthier, and More Creative*

"A joyful and insightful invitation to reconnect with forests. Amos Clifford is an outstanding guide to deepening our relationships within the community of life."

—**David George Haskell**, author of *The Songs of Trees*
and Pulitzer finalist, *The Forest Unseen*,
professor, University of the South

"In this book, Amos weaves a precious tapestry of practical details, poetic imagining, and historical perspective on the practice of forest bathing. It's a delightful read that leaves you yearning for intimacy with nature."

—**Sylvie Rokab**, award-winning filmmaker,
"Love Thy Nature"

"If we are to survive and, hopefully, thrive as a species, Amos Clifford's book is a must read. Clear and insightful, his writing is pure poetry. Our relationship to Nature can be renewed and Forest Bathing shows us how."

—**Rosita Arvigo**, author of *Rainforest Home Remedies* and *Sastun: My Apprenticeship with a Maya Healer*

"As an integrative internal medicine physician, it's exciting for me to see the scientific data confirming the mental, emotional, and biophysical benefits of forest bathing. However, what makes this book so excellent is how Amos Clifford describes the experience of forest bathing in a way that is so poetically engaging. His writing unites us with the healing rhythms of nature to bring about a profound peace of mind and heart."

—**Philip Barr**, MD, Duke Integrative Medicine

"In these pages, Amos Clifford asks: 'Remember watching clouds as a child, seeing the shapes of fantastic creatures appear and then morph slowly into something new? I wonder how many adults will do this again, someday, when they are not too busy?' I hope you are not too busy to pick up this poetic and comprehensive book. Take this invitation to revisit a world you may have abandoned as a child."

—**Melanie Choukas-Bradley**, ANFT certified forest therapy guide and author of *The Joy of Forest Bathing*, *A Year in Rock Creek Park*, and *City of Trees*

your guide to

FOREST BATHING

Experience the Healing Power of Nature

M. AMOS CLIFFORD

Founder, Association of Nature and Forest Therapy
Guides and Programs



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INTRODUCTION

You carry a forest inside you. It is a mirror within of the great forests of the world. This book is an invitation to bring those inner and outer forests together.

Forest bathing is a practice that belongs in each person's palette of self-care strategies. It is also a powerful path of activism for those who are called to help heal the broken relationships between people and the more-than-human world. Humans are not separate from nature and have no free pass to escape the effects of the traumas we inflict upon it. Healing of people and forests happens together, or not at all. The medicine that brings healing is in the relationship. Forest bathing is a potent tool in this supremely important work.

Like many practices, it is easy to begin, but also like the most satisfying practices, there are layers of

complexity and delight in forest bathing that reward us when we make it a regular part of our lives. This book is a guide to get you started.

I will share some of the core methods of forest bathing. I also touch on some of the philosophy. When we are forest bathing, we work with the forest as our partner. One of the key sayings forest bathers return to as a cornerstone of our philosophy is, "The forest has your back." While we must make an effort, paradoxically it is by relaxing into the forest's embrace that we are most likely to receive its benefits. And these benefits are many. Some are discussed in this book, but others await your discovery.

As your partners in this practice, the trees and forests welcome you. They recognize and call to your inner forest. Take a moment right now to remember a tree that was in some way important to you early in your life. Maybe you walked by a ginkgo on the way to school and for one week each autumn it lit the breeze with golden leaves. Or perhaps there was a huge maple hidden away in the woods near your home—a tree that you felt only you knew about. Maybe you'd go there anytime you really needed to be alone. It doesn't matter if you cannot recall

(or never knew) the name of the species. What matters is the *connection* you had with that particular tree—the felt sense that is a part of being in relationship. What was your relationship with that tree?

As your tree emerges from the landscapes of your memory, what details do you recall? How old were you at the time? When did you first see the tree? What were the circumstances? How did you and the tree interact? Did you climb it, shelter under its limbs, build a fort in it, harvest its fruits?

What do you recall of the tree itself? Picture its size; the feel of its bark, leaves or needles; how it changed through the seasons. It could be that only now, as you get in touch with the memory of that tree, are you beginning to see new dimensions of the place it held in your life. Filling in the details of your first encounter with a tree, let the memory take the shape of whatever magic your imagination offers.

My earliest memory is of trees. I am in a crib in my bedroom on the second floor where there is an open window. As the sky slowly lightens with the dawn, I hear the trees greeting the morning with song. In a high

quavering voice, the oranges begin their dawn chorus: "Oranges! Oranges! We are Oranges!" It is a song filled with great joy. The lemon trees answer: "Lemons! Lemons! We are Lemons!" and their anthem is equally joyous. Back and forth, on that threshold between the night and the new day, they sing. Those songs are the earliest stream of the soundscape of the forest within me. I don't know how I knew that some trees were called "oranges" and some "lemons." My heart is touched with this mystery and how it hints at layers of relationship between people and trees that are beyond the reaches of our cultural imagination.

My singing trees are an example of how trees touch our lives, often in ways that are so gentle and so much "of the moment" that we may not even notice the connection until, in a moment of later reflection, there comes over us an awareness of the fullness of their offering. It is when we look back that we realize the abundance of their gifts. This is the slow, patient nature of trees. When we spend quiet time in the woods, or in a park, or even our yard, our inner trees—the ones we remember as friends from long ago—are there as well. The stirring

in our core, the simple glory of the present moment that is rooted in the ecologies of our memory—this is at the heart of forest bathing.



Forest bathing can be an occasional event, but it is when we make it a regular practice that we realize its full benefits. While we may not be able to get to a forest every week, most of us can find a way to incorporate at least some of the benefits of forest bathing into our lives, through simple ways of continually renewing and deepening our connections to the more-than-human world of nature.

All over the world people are taking up forest bathing to reconnect to nature and to find relief from the everyday stresses of life. They are receiving many benefits and blessings. My belief is that the desire to be in forests and seek solace and healing among the trees is deeply encoded in the human psyche; it's in our DNA. Our species evolved among the trees and in the savanna environments where forests and grasslands meet. Long ago, our bodies learned to benefit from breathing in the exhalations of the trees, that rich mix of freshly minted oxygen and other aerosols

that benefit our moods, our hearts, our mental capacities, our immune systems, and more.

The relationship has always been reciprocal: we exhale the carbon dioxide that the trees breathe in. Our forebears learned to tend the trees, to prune them, to periodically burn away the understory of plants before the fuel load endangered the forest. When societies forget how to tend the trees, they start to remove forests, and inevitably deserts appear, springs run dry, weather patterns change. These are the times we are in. Somehow, as a species, most of us no longer know trees as our relations and view them instead as crops to harvest in service of purely human aims.

This is one of the reasons why forest bathing is important for our times. The trees need us now. They call us back into the groves of their congregation with offerings of healing. And we come to them precisely because we remember in our bones the power and beauty and generosity of the trees. We deeply intuit that it is our birthright to recall their songs.

I've experienced forest bathing in many of the great forests of the world. I've walked among ancient oaks

in Serbia that rival the size of some of the coastal redwoods in California. I've conversed with the most ancient of bristlecone pines of the high, cold mountains where Nevada and California meet. I've lain on the friendly soil in the New Zealand forests where the kauri stand in their magnificence. In Japan I was held between the roots of a hinoki cypress named "The Ancient One," who shed raindrops from its branches onto my upturned face. I feel most at home in the oak and bay woodlands of the California coastal ranges, because they are where I spent my childhood and where I live today. Among all of these forests, in the company of their trees, I have come to know a quiet transformation of my heart and mind. At first in whispers, and over time in voices more audible, the forests are teaching me to, once again, hear how the singing of the trees is a chorus woven in harmony with the song of my life.



This book is an invitation to trust your inner forest to guide you into a delightful practice among the trees. Whether you live in the countryside, suburbs, or the city,

this book offers you a framework and specific activities you can use to explore forest bathing on your own. I won't make any promises, but I will say this: the experience can be profound, even transformational.

Nomenclature: What's It Called?

The exploration of forest bathing in this book is based on the practice I and my colleagues at the Association of Nature and Forest Therapy Guides and Programs (ANFT) have developed. We refer to what we are doing as "forest therapy." We are inspired in part by Japanese practices, but we don't attempt to replicate their methods, which have developed in a way that is a great fit for unique aspects of Japanese culture. The Japanese term for this practice, *shinrin-yoku*, translates literally as "forest bathing." That is the origin of the title of this book and the term we use most often throughout it. I view the terms *shinrin-yoku*, forest bathing, and forest therapy as almost interchangeable. There is only a subtle difference, in that forest therapy implies that the practice is taken up with an intentional goal of some type of healing best done with a

trained guide. In Japan, besides *shinrin-yoku*, guides will sometimes describe what they do as "*shinrin*-therapy." The methods they employ are focused on boosting wellness and preventing disease. "Forest bathing" suggests to me a more casual experience among the trees, unburdened by expectations, oriented to simple pleasure.



1

WHAT IS FOREST BATHING?

The word *bathing*, when used with the word *forest*, conjures images of swimming in rivers or lakes that are surrounded by trees. That's rarely a part of forest bathing, but it's not entirely off the mark. The air through which we walk is in many ways similar to water. It moves in currents, it flows in waves; you can see this in the myriad patterns of clouds floating in the ocean of sky. It is inhabited by living ecosystems, from the glittering strands of breeze-borne silk to insects and birds; it carries pollen and wind-borne seed, along with soil and fungal spores. Sound travels and spreads in layered patterns of information. In these ways and more, the atmosphere is much like the ocean. The air around us is an ocean in which we have always bathed.

In the practice of forest bathing we immerse our senses in the special qualities of the fluid, oceanic ambience of the woodlands. We walk slowly so we can focus our senses on the myriad ways the living forest surrounds and touches us. Feel the breeze on your skin; hear the gurgling voices of the brook and the calls of birds; see the movement of trees in the wind. By giving attention to your senses, you turn down the volume on the cacophony of inner thoughts. Your senses bring you into the present moment, where you can take in all the forest has to offer, welcoming it, letting it settle inside you. When the forest is allowed its place within you, it supports your body's natural capacity for wellness and healing.

Forest bathing is not the same thing as hiking. The destination in forest bathing is "here," not "there." The pace is slow. The focus is on connection and relationship. Sometimes when I tell others about forest bathing, they will say, "I have done that my whole life." Maybe—but probably not. Most of us have never learned the art of stillness in nature. There are exceptions: a fly-fisher, for example, learns over many long seasons of practice how to fully tune in to the sounds of the water, the way the sun

glints from its surface, the daily and monthly shifting of insect populations and the fish who feed on them. Standing still in the ripples, gauging the currents of air, feeling into the fish and their ways, and casting the line—that slow, sensory feast, in which fishing itself is sometimes forgotten, is akin to forest bathing.

As a child, I had the good fortune to live in a place where there were many woodlands nearby and long trails into the mountains. It was an era of greater freedom for children. In the long unsupervised hours of summer, my friends and I walked countless miles. We did not think of ourselves as hikers, but sometimes that's what we were. As a young man I became a wilderness guide. I traversed great distances in the woods and deep wilderness, sleeping under the stars for a hundred days or more each year. But except in accidental moments of grace when I let go of any thoughts of my destination, I didn't awaken to the power of the places in which I stood. Most of the time, not having learned yet the art of being silent and still, I was not awake to the generosity of the forest. It was only after decades of meditation practice and of experiencing new ways of being in nature, such as vision questing, that I learned to slow

down and to pay attention sufficiently to begin a process that has for me been one of *remembering*. I began to remember that I am not separate from nature; that as a human I belong not just to human society, but equally to the society of the more-than-human world. I don't just view its power and beauty from outside, I am *of it*.

Thus, I began forest bathing. In 2011 I began to study forest therapy specifically, and in 2012 I founded the Association of Nature and Forest Therapy Guides and Programs (ANFT). My aim is to share this practice with many others and to help establish it around the globe. I hope that you will share some of the blessings I have received from forest bathing. To bathe in the forest is to be immersed in a grace that permeates the world, to feel an immanent power and beauty that is everywhere, whispering. It is our human heritage as members of the earth community to not just hear these whispers, but to join our own voices to them. If we learn this, perhaps we can begin to undo some of the damage our species has done and find new ways of tending to the wellness of the vast and wild world.

Shinrin-Yoku: A New Name for an Ancient Practice

Forest bathing has sometimes been called the “ancient Japanese practice of shinrin-yoku.” The truth is more nuanced than that. Firstly, the term is not ancient: it was coined in 1982 by Tomohide Akiyama when he was director of the Japanese Forestry Agency. His idea was to develop a unique brand identity, linking forest visits to health and wellness-oriented ecotourism. But this is not to say that forest bathing does not have ancient roots.

Going to nature for healing has a long tradition in many, if not most, cultures. Indeed, until recent industrial times all medicine came from nature in the form of herbs, roots, ritual, and relationships with other beings. The fifteenth-century physician Paracelsus taught, “The art of healing comes from nature, not from the physician.” Ancient cities were sometimes designed to incorporate nature for this reason. More than twenty-five hundred years ago, Cyrus the Great had gardens lush with trees built in the Persian capital. Virtually every preindustrial indigenous people had traditions, ceremonies, and rituals, as well as medical

techniques, bound to nature and reliant upon it for healing. Many of these were, and still are, forest-based. Where you find traditional peoples and forests in the same place, there will be forest healing practices.

There is a growing surge of interest in these practices, perhaps in response to some of the problematic failures of industrial medicine. Witness the many people who have found value in Ayahuasca ceremonies, a form of forest medicine from South America that addresses physical well-being but also goes beyond it into psychological and spiritual realms. Think of the forest monks who for millennia have depended upon solitude under the trees as a pillar of their pathways to enlightenment. A contemporary resurgence in natural healing practices is flourishing in many countries, under many different names: from *fri-luftsliv* (or "fresh-air living") of Norway to techniques practiced in German forest spas to *sanlimyok* in Korea, where entire national parks are dedicated to the healing powers of forests. In North America there is a growing network of trained guides who are certified to lead groups on forest bathing outings offered under a variety of names, such as "Nature Wellness," "Forest Mindfulness," and so on.

In Akazawa Healing Forest, near the town of Age-matsu in Japan, I encountered a way in which the ancient and the new exist together. Our guide was Takashi Miura, one of Japan's most experienced shinrin-yoku experts. After a short train ride to the trailhead, followed by a brief orientation, we walked into a lovely forest featuring hinoki cypress, a tree that has strong symbolic meaning in Japanese culture, as well as proven healing properties. At a crossroads where five trails met, there was a closed gate blocking access to one of them. Takashi explained that it led to the sacred site where the first shinrin-yoku walk was held in 1982. But before that event, the place had been held as sacred for hundreds of years. It, like many groves and trees and woodlands around the world, has long been a place where people have found renewal, solace, and healing.

The belief in the healing powers of forests is deeply rooted in Japan, where it is influenced by the traditional religion of Shinto. In the Shinto worldview, all things have indwelling spirits. Mountains, rivers, and also old trees have *kami*, gods or spirits that live within them. Every tree has its *kodama*, a spirit similar to the dryads of

Greek myth. Unseen but felt within the living networks of the land and waters are also the complex ecosystems of spirit. In popular culture they surface in the anime films by Hayao Miyazaki: *Spirited Away*, *My Neighbor Totoro*, and *Princess Mononoke*. These movies, which I recommend to the inner child in every forest bather, are a window into worlds that have long inhabited the collective unconscious of many peoples. Everywhere you go in Japan, from across the street at Shinjuku Station, Tokyo's main rail hub, to the remotest mountain villages, you encounter shrines where kami are remembered and honored. Very often these shrines are for the kami of individual trees, which are carefully tended and to which offerings of small gifts are made. There is an unspoken assumption that sentience exists not just in humans but throughout the natural world.

The Japanese shinrin-yoku guides I have met didn't talk about this while I was with them, and I suppose most of the visitors they take forest bathing don't either. Instead, the Japanese emphasize the scientific rationale for forest walks. Most of the guided walks I've been on in Japan begin and end with measurements of blood pressure

and salivary amylase, which are indicators of stress and relaxation. Each forest bather is given a card to write their pre- and post-walk results on. At the end of a walk you can see how your blood pressure and salivary amylase numbers have changed. While the relevance of such measurements as an assessment tool may be debated, the message behind collecting them is clear: "This practice is backed by science."

The approach to forest bathing described here is similar to *shinrin-yoku* in Japan, but there are also important differences. The Japanese say that they use "all five senses" for forest bathing; but the approach described in this book includes additional senses such as proprioception, body radar, and imaginal communication, discussed in a later chapter. My practice has allowed me to familiarize myself with at least fourteen senses. In forest bathing, they accelerate my connection to nature, self, and others. These additional senses can be tapped into—or more likely remembered—quite naturally through the invitations forest therapy guides use on our walks.

Forest Bathing in North America

When the first Europeans arrived on the eastern shores of North America, they encountered peoples who had lived in harmony with the forest for thousands of years. It was said that a squirrel could travel through the trees from Maine to Mississippi without ever touching the ground. (Presumably, these squirrels were adept at swimming the many rivers crossed along the way!) What remains of these primal forests is still magnificent and inspiring, although greatly reduced. The forests of North America have provided food, medicine, shelter, and, perhaps most importantly, a stable sense of place to their inhabitants. Writers like Thoreau, who came on the scene much later, expressed what many others felt in his essay "Walking": "I think that I cannot preserve my health and spirits, unless I spend four hours a day at least—and it is commonly more than that—sauntering through the woods and over the hills and fields, absolutely free from all worldly engagements."¹ This is clearly forest bathing long before the term existed.

Thoreau lived in times that were much more agrarian, and therefore more connected to natural cycles and the rhythms of the forest. Much of that association has

been lost as our cultural consciousness has been increasingly shaped by technology, industry, and an orientation to productivity. We live in a time that calls for a renewal of our ancient relationships to forests.



The story of forest bathing in North America is shaped in large part by the organization I founded, the Association of Nature and Forest Therapy Guides and Programs (ANFT). Its mission is to develop and disseminate the practice of forest therapy, leading to its widespread acceptance and integration into health and wellness practices and programs and ecoactivism. The taproot of our approach to forest bathing begins perhaps with childhood memories. That first remembering is a type of personal origin story; it is the seed from which we grow into who we become.

I remember the singing of the trees; thus, I have become a forest therapy guide. To me, to be a "guide" means something very specific. It is the task of a guide to support partnerships between people and the more-than-human world. I started exploring this in the 1970s as a young wilderness guide in programs for at-risk youths.

Guiding is seasonal work, and in the off-seasons I developed a career as counselor and a nonprofit leader, earning degrees in organizational behavior and counseling. Thus, from the root of the singing trees of my childhood grew the trunk. Training as a psychotherapist is one of several large limbs coming from that trunk. For decades I practiced Zen meditation—another limb. Yet another is my studies and practice in the field of restorative justice, a way of helping communities and individuals move toward healing after instances of trauma and criminal victimization. I saw how forest bathing can embody restorative justice in our relationship with the land, helping us to hear the voices of the more-than-human world and to understand from its point of view the impacts of the traumas we have inflicted. It helps us to move into new partnerships and mutual healing.

Each of these limbs has its visible expression and its corresponding set of roots.

The tree grows, finding its place in the forest. Its leaves grow and shed with the seasons. Fires sweep through; it is scorched but survives. I imagine you'll find this imagery familiar, that your life has moved through similar cycles of change and growth. If at times we have felt stunted, it may

be that we neglected our roots, that part of our ourselves by which we draw sustenance from the land itself; for it is from the land that our deepest lives are fed. The great disease of our industrial civilization is that most of us are no longer connected to the land. No wonder we see so much uprootedness among peoples everywhere.

If we can envision ourselves as patterned on a similar spiritual template as trees, perhaps we can feel our way more readily into the forest. In later invitations I will sometimes dare to speak for the forests, transmitting what I have learned from them in my decades of guiding. What I offer as the teaching of the trees cannot be called science; instead, their lessons feel like stories, arising from the same dreamscape from which comes myth. I hold these stories loosely, allowing them to guide me when my heart tells me that it serves to do so. I invite you to hold the stories you receive from trees in the same way.

Perhaps your forest bathing experience will give you, as it did me, this story as a point of beginning: Forests do not see humans as separate from them. They seem to long for us to return to our ancestral knowing of them. The trees welcome us, and are glad of our returning.



THE HEALING POWER OF FOREST BATHING

I have yet to meet anyone who needs to be convinced that forest bathing is beneficial. For most people, it just makes sense. Still, there is such a wealth of discovery about the benefits that I would be remiss to not touch on it here. What follows is a brief glance at some of the highlights.

Simple Relaxation

For some people, forest bathing is simply an enjoyable and relaxing way to spend a day out in nature. There's really no need to make more of it than this. But it can be surprisingly difficult to relax.

Think of the advertisements for vacation getaways with images suggesting long hours in beachfront hammocks. They may be alluring, but not many of us could

stand it for long; the compulsion to get up and do something would soon lift us out of the hammock in a restless search for stimulation. Forest bathing can help us learn to relax. Of course, the paradox is that relaxation implies an absence of goals, so as soon as we set relaxation as a goal we're on tricky ground. We can be trapped by our internalized "adultisms" that value the structuring of our time we have learned as grown-ups over the free play of children. We fear "wasting time."

Forest bathing gives us the opportunity to leave such preconceptions behind. Applying them to neither our children nor ourselves, we can just let the moment be what it is. There is no need to rush. There is no need to "make good use of time." There is nothing to accomplish. Simply let the moment be what it is. And take care not to turn "letting it be" into an accomplishment in itself, just another "something" to chase after.

Physical Health and Well-Being of Humans

In a comprehensive review of the pertinent literature, University of Chicago researcher Ming Kuo writes, "The

range of specific health outcomes tied to nature is startling, including depression and anxiety disorder, diabetes mel-litus, attention deficit/hyperactivity disorder (ADHD), various infectious diseases, cancer, healing from surgery, obesity, birth outcomes, cardiovascular disease, muscu-loskeletal complaints, migraines, respiratory disease, and others."² Nature is a powerful physician.

Significantly, forest bathing provides a boost to the immune system. Counts of "natural killer" cells that attack cancer and harmful pathogens increase after forest bath-ing, and the ripples of this single effect are wide reaching throughout our bodies. Kuo proposes enhanced immune function as a central pathway for explaining the myriad health outcomes associated with nature: "Nature stimuli are likely to boost immune function by way of their dem-onstrated effect on parasympathetic activity, and sub-sequent effects of parasympathetic activity on immune function." The terms *parasympathetic* and *sympathetic* refer to parts of our nervous systems of central importance in this discussion, and we'll return to them later in this chapter.

Another major benefit of forest bathing is an increased sense of relaxation and greater mental clarity. After a few

hours of forest bathing we'll likely feel more relaxed. That may mean we'll just feel better overall. We may have greater mental clarity, be more creative, and be more present with those we love. If we are plagued by anxiety or poor concentration, that will improve.

There are studies that have found that some of these benefits will persist for at least a week after a forest bathing excursion, and in some cases up to a month. A regular weekly practice of forest bathing will maintain them and, over time, boost them toward optimum levels—this with no medical intervention, no prescription medications, no invasive procedures.

Our bodies are remarkable self-healing organisms when in a balanced state. It's worth wondering if the forest should be our primary physician, with our doctors in support roles, to be called upon in the increasingly rare instances they are needed.

In a comprehensive review of shinrin-yoku-related research,³ Margaret Hansen and her colleagues at the University of San Francisco found that there is a large body of robust evidence honing in on several benefits of forest bathing. They agree that the improvement in the overall

functioning of the immune system is very significant. They also find converging data giving evidence that forest bathing decreases cardiovascular illnesses, such as hypertension and coronary artery disease. This is hugely significant, as these illnesses are responsible for many deaths.

In more good news about forest bathing, it helps with respiratory system issues such as allergies. The authors concluded that "research conducted in transcontinental Japan and China points to a plethora of positive health benefits for the human physiological and psychological systems associated with the practice of Shinrin-Yoku, also known as Forest Bathing." And all of this comes about at just the cost of enjoying walks in the woods.

Scientists who specialize in this field are actively refining their research methods, leading to increasingly reliable results. I experienced this myself when I visited Dr. Yoshifumi Miyazaki and his team at Chiba University in Tokyo Prefecture at the Department of Environmental and Human Health Science. Miyazaki is one of the leading researchers on forest bathing and his work is widely published in the peer-reviewed journals. He is one of an elite group of legends in the field.

Chiba University is a one-hour train ride from Shinjuku Station in downtown Tokyo. The Department of Environmental and Human Health Science consists of a cluster of low buildings with a persimmon orchard on one side. I arrived on a cool, cloudy day, along with four other American members of our Forest Therapy delegation, to meet Dr. Miyazaki and his team and learn about their research.

He took us into a small laboratory that reminded me of recording studios, with soundproofing panels on the wall and a rack of computer equipment occupying about half of the space. In the other half was a single chair facing a large, high-resolution video screen.

I sat in the chair and the team put an elastic band with two attachment points on either side around my head. Small infrared transmitters were inserted into each of the attachment points, a pair for each hemisphere of my cerebral cortex. These sensors detect fluctuations in mental engagement and excitement, which are recorded on the computers.

The room lights went dim, and the screen in front of me displayed a solid block of gray. Soon a new image appeared: a photo of city skyscrapers. It stayed up for perhaps two minutes, then there was another minute of

the gray screen. Then came a forest scene, just a simple still image, predominantly green. Afterward, we all gathered around the monitors to see the results. My brain did indeed respond differently to each scene. This real-time data collection is an example of how Miyazaki and other researchers are working to refine methods using cutting-edge technologies.

Researchers in many countries have been using many tools to increase our understanding of what happens in the body when we are exposed to natural settings. They've monitored how cortisol and amylase levels, both indicators of stress effects on the endocrine system, change when forest bathing. They've looked at blood pressure. They've had participants fill out questionnaires to track how their moods are affected over the course of a walk. There is a sense of engaging in a meta-experiment to find out which set of experiments gives the most reliable data. It's not just a matter of asking the question; it's also figuring out what question to ask and how to do so.

An emerging gold standard for measuring the effects of forest bathing is heart rate variability (HRV), used as a general indicator of how our nervous system is functioning. Since the nervous system is central to our overall health,

when it is impaired, a cascade of deleterious effects ripples through our bodies. To appreciate this fully, consider that the human species has lived in wild areas for 99 percent of our history. One of the ways we have adapted to nature is with the two-part structure of our nervous system: the parasympathetic and the sympathetic.

Think of hanging around in a friendly forest where you feel reasonably safe from predators and other hazards. In these circumstances your body is in the "rest and digest" state dominated by the parasympathetic nervous system, which manages the routine duties of breathing, circulation, and the like. When we are in an optimum state of relaxation, the heart beats not like a metronome, but with exquisite responsiveness to subtle, moment-to-moment changes in the environment. Most importantly, the time between beats varies, and this is called heart rate variability.

In contrast, think of encountering a lion at the edge of the forest. Instantaneously, the sympathetic nervous system takes over, and a host of physiological events take place to optimize our bodies to respond to short-term crisis. This is the state we know as "fight, flight, or freeze." One part of this response is that our heart rate ramps up to

provide oxygenated blood to major muscle groups and its beat becomes much more regular. After the threat is gone, we quickly recover and return to baseline functioning. If we were to remain in the accelerated state for extended periods, our health would deteriorate.

By measuring HRV, we can make inferences about the current functioning of our nervous system. A parasympathetic state characterized by greater HRV is when our bodies are in health maintenance mode. A lower HRV indicates a sympathetic-dominant state in which our bodies are fixed in crisis mode.

In eras past, our short bursts of fight or flight tended to have one of two outcomes: they ended quickly, or we did. When we survived, our bodies returned to a state where the parasympathetic system was dominant. It is in this state that our self-healing capacities are fully mobilized. But in our current industrial era, stress is endemic. Every day we swim through a toxic brew of environmental poisons, twenty-four-hour news cycles, and high-pressure school and work deadlines. With our bodies chronically in a low-intensity fight, flight, or freeze status, our health deteriorates, and our mood and mental capacities are

affected. It becomes more difficult to maintain the relationships and social networks on which our emotional well-being depends.

The toll on our well-being is immense. A whole catalog of stress-related illnesses is linked to this pressure on our nervous system. Separated from the forests that our DNA recognizes as home, disconnected from the land, our species finds itself in new circumstances for which the slow clock of evolution has not kept pace. We have not had time to adapt to the stressed-out world we have created in the short time span of the last century.

But there is good news: Forest bathing resets our nervous systems. It does so quickly and effectively. It is as if we have come home—*because we have*.



So far, we've been exploring one broad research question about the effects of nature on human health. A complementary question is, "How do these effects happen?" What physical mechanisms trigger the beneficial physiological changes produced by forest bathing? In her research survey, Ming Kuo has compiled a list of "active ingredients" in nature, ranging from the enriched oxygen emitted by

trees to the pleasant sights and sounds, increased exposure to biodiversity, and reduced exposure to violence. This potent medicinal brew sets us at ease.

One much-studied mechanism is the effects of phytoncides, naturally occurring compounds emitted by trees. The word *phytoncides* means, literally, "plant killers," and when a tree or shrub detects a threat from, for example, a fungus, its immune system ramps up their production to control the growth of the infection. Our bodies respond positively to some of these phytoncides, which seem to work in concert with our own immune systems. This makes sense, given that we evolved among the trees, breathing in these very compounds. Phytoncides introduced into pathogens cultured in a petri dish slow, stop, or in some cases destroy them completely. It's a powerful finding.

While phytoncides and their effects are fascinating, many other influences have also been studied. What combination of colors has the most calming effects? The same as those we find in forests. What sounds are most relaxing? The "big three" of the forest—birdsong, trees moving in the breeze, and water running in natural streams—set us at ease. These findings can be applied in the design

of office buildings, where incorporating abundant plant life on the grounds and inside buildings has beneficial effects on worker health and happiness. Hospital patients in rooms that afford a view of trees recover more quickly and are discharged earlier.

And there are many more examples, which are beyond the scope of this book. The curious reader may learn more from the resources listed in the back of this book. An understanding of the mechanisms by which nature affects our well-being is still a relatively new field of study. We can look forward to explosive growth of knowledge in the coming years.

Emotional and Mental Health

Margaret Hansen's survey of the scientific literature mentioned above also highlights the following benefits reported by people who practice forest bathing:

- Reduced incidence or severity of depression, anxiety, and other mood disorders
- A deeper sense of mental relaxation

- Increased feelings of gratitude, selflessness, and wonder

A now famous study at Stanford University provides insight into one of these mental health benefits: a deeper sense of mental relaxation, or a decrease in the tendency to ruminate. Rumination is that state of mind where we get stuck on a hamster wheel of repetitive, often self-recriminating, thoughts. Rumination is one of the criteria that may indicate depression. The Stanford study found that rumination decreased among depressed patients when they walked in the forest.

In my own experience, before I started forest bathing, my moods tended to fluctuate widely. If I had had a “mood-o-meter” gauge, its needle would have frequently swung from the green of mellow and happy feelings to the red of general grumpiness. Nowadays, when I forest bathe once a week or more, the needle on my internal mood-o-meter tends to stabilize in the green zone, and its swings are less dramatic. This has been beneficial in my relationships. If I skip forest bathing for three or more weeks, I can start redlining the mood-o-meter again.

Many healers suffer from various forms of burnout, and that includes environmental activists. I count myself

among them. Deeply involved in helping others and saving the world, we too often neglect our own needs. A weekly forest bathing walk is an excellent prescription for activists and healers of all types.

Activism in Action

"People protect what they love," said Jacques-Yves Cousteau. Through forest bathing I have fallen in love with the forest. I want others to feel this way too. We can't engender this emotion by imparting facts only. We need to slow down, listen, and receive the forest's nuanced symphony of sensory offerings. Then our hearts can be touched—we fall in love.

Forest bathing is part of an emerging movement to build a global network of lovers of the land. Forests teach us to think differently about the more-than-human world, so we can relate to our shared earth in a fundamentally different way. The dominant mythology of industrial cultures is that humans—and humans alone—possess sentience, the ability to feel and perceive subjectively. We inherit from this culture an image of the natural world as "less-than-human." We see it as separate from us, as a collection of objects to exploit for solely human ends, as if

the land and its many species have no right to existence for their own being.

Oddly, in the long history of our species this view is deviant. Almost all indigenous cultures knew at least some nonhumans as sentient, possessed of awareness and capable of intentional action on their own behalf and to benefit others, and having their own form of individuality and personhood. This view extended beyond animals and plants to include rivers, stones, and mountains. Their forms of sentience are seen as quite different from ours, but nevertheless essential to the fullness of the fabric of life. When our blinders are shed and we, too, become aware of sentience in all living things, our view of the world and our place in it shifts. Our new perspective makes us capable of developing relationships that are deeply meaningful and supportive.

For some forest bathers, the practice becomes an invitation to experience the consciousness of the more-than-human world. It is a powerful, beautiful, and radical form of activism. It is radical because it returns us to our roots through a "re-membering" of who we are. Then our actions become imbued with power and beauty, as our lives are increasingly informed by our growing networks of relatedness.

Healthy Forest Ecosystems

Through forest bathing, we become more attuned to forest ecosystems. When this happens, it becomes more difficult to view them as collections of objects to exploit. Most forestry practices view trees as crops. "Sustainable" forestry generally means replanting logged areas with species that are optimal for later profit. What results is a far cry from a healthy forest ecosystem.

Forest bathing connects us with the loveliness of life as it exists throughout the forest. It reminds us of our fundamental partnership with the lands upon which all species depend. Thus, it can provide a set of visceral experiences that reform our understanding of healthy forests.

In various places around the globe, projects are demonstrating the right relationships between people and forests. Afaan Woodland Trust near Nagano, Japan, is one. Founded by C. W. "Nic" Nicol about thirty years ago, it has been a living laboratory for remembering the *satoyama* way of living. Satoyama is a term that signifies the special character of the places where mountains and farmlands meet (*sato* means "cultivated," and *yama* "mountain"). For

centuries, it also referred to a traditional form of Japanese permaculture. The people of satoyama villages passed wisdom from generation to generation on how to harvest trees, bamboo, mushrooms, and wild herbs and hunt in ways that preserved and even improved the health of the forest ecosystems.

Nicol began with a large plot of crop-oriented forestland. Using biodiversity as a measure, he noticed that it was impoverished. There were far fewer insect, bird, and mammal species than would be the case in a healthy forest. His project has restored the forest to health. One of many techniques he uses is to pull the logs of cut trees out of the forest with teams of horses, rather than mechanized equipment, because the horses' hooves churn the soil in a helpful way. He has restored waterways, removed invasive nonnative species, and planted with an eye to creating habitat for critters. As a result, the forest has blossomed. Everywhere there is life—a species-rich explosion of diverse color and activity.

Significantly, throughout this forest one encounters places designed for human gatherings. Seated in a simple shelter among the trees, Nicol served our group soup he



ABOUT THE AUTHOR

M. Amos Clifford is a leading voice for Shinrin-Yoku inspired Forest Therapy in the United States. He is the founder of the Association of Nature and Forest Therapy Guides and Programs, an organization leading the movement to integrate nature and forest therapies into health care, education, and land management systems. He has been a student of Buddhist philosophy for over twenty years and is the founder of Sky Creek Dharma Center in Chico, CA. Visit Amos at forestbathing.info.

Let the Trees Be Your Guide

Simply being present in the natural world—with all our senses fully alive—can have a remarkably healing effect. It can also awaken in us our latent but profound connection with all living things. This is “forest bathing,” a practice inspired by the Japanese tradition of *shinrin-yoku*. It is a gentle, meditative approach to being with nature and an antidote to our nature-starved lives that can heal our relationship with the more-than-human world.

“A beautiful and inspiring guide inviting us to seek out the trees and let the healing happen, both for us and for our beleaguered ecosystems. Grab this book and head outside.”

—Florence Williams, author of

*The Nature Fix: Why Nature Makes Us Happier, Healthier,
and More Creative*

Here you'll discover a path—along with specific activities presented by Amos Clifford, one of the world's most experienced forest bathing experts—that you can use to begin a practice of your own. Whether you're in a forest or woodland, public park, or just your own backyard, let this book be your personal guide as you explore the natural world in a way you may never have thought possible.

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