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**FOREST-BATHING:
AN EXPLORATION OF HUMAN CONNECTION TO WILDERNESS**

**A thesis submitted to
Regis College
The Honors Program
in partial fulfillment of the requirements
for Graduation with Honors**

by
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May 2020

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Introduction

In the most overwhelming, stressful moments of my life, I either find myself a) making my way to the woods, or b) craving the presence of nature. I always thought this was a personal, individual quality that manifested because of the fact that I grew up constantly surrounded by swaying Douglas firs (*Pseudotsuga menziesii*). My number one escape was the vast forest that was a mere 10-minute bike ride from my childhood home, appropriately called the Grand Forest. I spent hours in this forest. Whether it be walking, running, biking, or simply just sitting, the Grand Forest was my place of comfort. The firs there have witnessed parts of me I've shown to few people in my life.

I was always under the impression this was just a Pacific Northwest child thing. The community I grew up in highly valued the environment, and I figured I was just a cog in the machine on Bainbridge Island. I continued to love the outdoors after I left; my major is Environmental Science. Yet this deep connection to the outdoors appeared over and over again as I grew older. In Colorado, I would head up to the mountains with my friends after a particularly hard week and feel my worries lift away in the wild. When I lived in New Zealand during a study abroad program, I would walk along the Maitai River that carved through the small town of Nelson and listen to the shrill calls of the Tuis to soothe my anxiety and homesickness.

I wrote this thesis because I wanted to devote myself to something for my last year of undergraduate university. I wanted to combine my two biggest passions: the environment and psychology. The idea of my thesis didn't come instantly to me. Since my arrival at Regis University in 2016, the pressure of writing a thesis in order to complete the Regis College Honors Program grew more and more with each passing year. The pressure pestered me the same

way the screaming Tuas of New Zealand pulled me out of a restful sleep. My thesis was a constant thing; it was something I had to do, something that I would accomplish and be proud of.

When the fall of senior year rolled around in 2019, I still didn't have a topic solidified in my mind. On top of writing a thesis, I had to take more classes in the fall semester than I anticipated and people were starting to do that thing where they have the insane need to ask you, "what are you going to do after graduation?" After my friend Lizzy one day asked me if I was doing okay because my face looked "super tense, dude," a beautiful, genius idea came to me: why not make my thesis something that actively relieved my anxieties, rather than something that contributed to it.

With this thought in mind, I reflected on the things that make me the happiest when I'm at my lowest. Without fail, I always come back to nature. How incredible would it be if I could spend time out in the mountains, and make that my thesis? I looked up websites on nature therapy and something felt right about the topic. My mom was the one who sent me an email with the link to an article about forest-bathing. I clicked on the link, and I knew I found my topic.

I had briefly heard about forest-bathing and nature therapy before, probably in one of the *National Geographic* my freshman year roommate Tek hoards. I had participated in "unprofessional" nature therapy all my life as a Pacific Northwest child, but I knew nothing about the psychological, biological, or philosophical benefits of forest-bathing.

In an attempt to learn more, I found an event about a hundred miles from Denver in a small town up near Vail simply advertised as "Forest Bathing Workshop with M. Amos Clifford." Without much thinking, I signed up for the workshop.

I did no research on the event. I just got in the car and drove, not really expecting much out of it except some basic background on the topic. The event was held at a coffee shop called

the Bookworm of Edwards. I had no idea what to expect when I got there, and when I walked in the door, I quickly realized I was by far the youngest person there, save for two other girls my age. I small-talked with some of the other people there. A woman named Christy eagerly told me that she was working on a thesis for her secondary undergraduate degree in Environmental Science and Theology at school in Indiana. She gave me her email to exchange information.

Another woman, Lori, explained to me that she was a licensed Forest Therapy Guide working in Denver. Her gray curls shook with excitement when I explained that I was exploring forest-bathing as a possible topic for my thesis. I got into a long conversation with a rather wild looking certified forest therapy guide named Tim, who was dressed in all flannel and Carhartt. Tim told me about the time he took a client out for a forest-bathing session (which are normally only supposed to be about two hours), and it ended up being around five hours. He described to me how copious amounts of grief had been unleashed within this woman, and she could not stop wailing or crying. The meditation had brought up such intense emotions and flashbacks for the woman that it took hours for her to calm back down. The woman had experienced some kind of trauma, he explained, and the forest had provided the perfect safe space for her to process her emotions. After she did, she felt refreshed and “inexplicably calm.”

After talking with all of these people, I was overwhelmed. The world of forest-bathing was something I had barely heard about, and I had been placed in the direct epicenter of it in this small, dusty coffee shop. During all of my small talk, another woman looked at me when she heard I was thinking about writing my thesis on forest-bathing and said, “you’re lucky. Amos is *the* guy.”

As it turned out, Clifford was *the* guy. He is the founder of the Association of Nature and Forest Therapy Guides and Programs, the organization leading the movement to further incorporate nature therapy in the United States.

Clifford was a small man, wearing all hiking clothes and a large Indiana Jones hat that he seemingly kept on at all times, because I have yet to see a picture of him without it. He didn't smile. Because I showed up early to the talk, Christy, the woman from Indiana, introduced me to Clifford, and told him my interest in using forest-bathing as a topic for my thesis. As I shook his hand, I expected him to ask me why I wanted to write my thesis on forest-bathing. Instead, he simply asked me if I wanted his autograph, which completely took me aback. I confusedly handed him my copy of his book, which he signed:

Claire,

I am grateful for your love of This practice. May the voices of the trees always help you find your path-

M. Amos Clifford

After signing my copy, he looked at me and said, "send me a copy of that thesis when it's done."

During his talk, Clifford said a lot of things that I agreed with. He talked about the idea of "Zen" and how if anyone ever boasts about something being "Zen", it no longer is because a named concept has been put in front of an experience. He told us about how complacent his generation was about climate change, how forest-bathing changed the way he cares for the environment and how it deepened his connection to it. I genuinely enjoyed these aspects of his talk and was thoroughly excited by the topic of forest-bathing. Clifford seemed like a genuine guy that cared deeply about the environment and who spent much of his time outdoors.

However, maybe he spent a bit too much time outdoors. His passion was obvious and radiating, but his ability to connect forest-bathing back to urban life was lacking. I wanted to ask him, “what if I can’t afford to drop everything and head up to the forests? What if I don’t have insurance and can’t pay \$130 for a forest-bathing session with a guide?” but I bit my tongue. However, I took note of this as Clifford wrapped up his discussion.

After Clifford concluded his talk, he led us outside and took us to a small clearing near the bank of the Eagle River that roared through the center of the town. He explained to us that he wanted to lead us through a small forest-bathing session because we can talk all we want about it but experiencing it firsthand was the best way to understand what it actually means to forest-bathe.

Clifford guided us through a meditation. He had us stand in a large circle and urged us to close our eyes. He went through each of our senses, and asked us what we smelled, why we thought we smelt it, how it made us feel to smell it, etc. etc. We did this with each of our senses, all with Clifford’s voice as a guide. He wrapped up our meditation by having us talk to the people around us about the different things we noticed the most. I had said the sound of the Eagle River, as my group was the closest to the riverbed. Another woman in my group smiled and told us how she could taste that fall was here.

As we walked back up to the Bookworm of Edwards, I found myself chatting with a girl about my own age. I told her about how I made the drive up to Edwards for research on my thesis. She told me that she had moved to Edwards to get out of the city, that whenever she was in the city she felt cramped and trapped, but up in the mountains she felt like she could breathe easy. Again, I took note of the lack of practical implications of forest-bathing: not everyone can just pack up and move. How can we bring the forest to us?

I've been reflecting on the greatest moments of serenity I've felt in nature and, perhaps I could call it, how I have forest-bathed unintentionally previously in my life. One particular moment keeps coming back to me. One of the most profound moments I've ever experienced in nature was in Kahurangi National Park in New Zealand at Te Puna o Riuwaka, a natural spring of water that bubbles up from the northern part of the Riuwaka River. I went to Te Puna o Riuwaka with my friend Jo after a very hard week during my semester abroad in New Zealand. At this point, I had been thinking about writing my thesis on forest-bathing in some form. What I experienced at Te Puna o Riuwaka, and what I learned about Māori, guided me and helped me write these words today.

I can hardly describe this forest in words. I don't think I had ever seen so much green in my entire life, and I grew up in the Pacific Northwest. The shades of green on Bainbridge Island are more subdued and jewel-toned, while the greens of New Zealand are vibrant and electric. My friend and I sat in this bright patch of forest without speaking to one another. I remember clearly looking up towards the sky, as a canopy of giant ferns shaded me, with their geometric patterns carving out the sky. The Tuis' calls were loud, echoing throughout the valley. The sound of the river was almost overwhelming, a quiet rush that I could almost hear coursing through my body. And the smell; I could breathe here more deeply than I ever could at the hostel I lived at.

The spring we sat by was electric, clear blue and surrounded by lush, moss-covered boulders. My friend squatted next to the running stream and held the jade pendant she normally kept around her neck under the steady stream of clear water. Jo was Māori, and she explained to me how this place was *wahi tapu* (sacred, almost supernatural) to Māori. She took trips here with some of her classmates, and many of her peers refused to get out of the car and come near the pool because of the power and sacredness that radiated from it.

Māori, the indigenous people of New Zealand, have a very special connection to the land (*whenua*). In fact, Māori connection to land is one factor that contributed to the tensions between English settlers and Māori back in the 1860s. To Māori, land was an integral part of one's genealogy (*whakapapa*). It had to be taken care of and protected for future generations. It was not something someone can buy and sell. As everyone knows, this was very different to how English settlers viewed land, and this difference caused a major rift between the two groups.

The very river my friend and I visited that day happened to be a sacred site for Māori. A sign near the river said:

Te Puna o Riuwaka has special mana or status, because from here springs waiora- the waters of life. For generations, Māori have come here for cleansing and healing, their feet following the path of those who have walked this way before.

What stuck out to me the most in this inscription was the word "heal." Māori have come here for *healing*. Previously, I had never thought about healing in my own experiences of escaping to nature. Nature to me is something I use to cleanse myself, as a purifier for my mind. In the context of mood disorders, I feel nature therapy can be viewed this way: as a way to slow down and purify the mind in the midst of fast-paced anxiety.

It might be easier for some people to visualize how we can use nature to heal ourselves, rather than a simple distraction or getaway we can go to when we need. This is how I previously viewed nature, as my getaway and safe space. I'm not saying that's a bad way to look at it, but viewing it as a physical healer for my stress paints the importance of nature in a different light.

The first chapter of my thesis is reflective non-fiction. It attempts to capture my personal narrative, and what my relationship with nature looks like. My second chapter is the science behind forest-bathing and an endeavor to explain the physiological therapeutic effects of nature.

My final chapter details what Clifford explained to us in that little coffee shop in Edwards, what he calls the “Optimal Flow” of forest-bathing, and my own experience of attempting it.

Forest-Bathing & I

A Growing Urban Environment and That Dreaded Morning Commute

My summers in Oregon were colored with vibrant sunsets, babbling rivers, sleeping early and waking early. My commute to my summer job was a 12-minute drive through the Deschutes National Forest every morning at 7:18am to start my shift at 7:30. Most people say their least favorite part of the day is their commute to work. For me, that was one of the best moments of my day, zooming down I-20 listening to Fleetwood Mac, Gus Dapperton, and Brenton Wood as ponderosa pines (*Pinus ponderosa*) swayed around me. One morning in the winter as I drove to work, the sky was colored a dusty, sleepy pink, and I slammed on my brakes as a massive herd of elk pranced across the highway directly in front of me. How could I hate this moment?

Perhaps the majority of people's commute doesn't consist of majestic elk or tall swaying Ponderosa pines. I love Oregon with my entire being for this very reason. I am constantly surrounded by something that brings me great joy, rather than being crammed in a subway with someone sneezing on me or stuck in traffic with horns blaring every second.

An economist by the name of George MacKerron from the University of Sussex created an app called Mappiness to determine where people were the happiest. Those who download the app will be randomly notified throughout the day and are asked to rate their current level of happiness. Their rating is stored along with the GPS location of where they gave the rating. Within a year of launching the app, MacKerron had more than 20,000 participants and well over 3 million data points. He discovered that, on average, participants are significantly happier outdoors in natural habitats than in urban environments (MacKerron & Maurto, 2013, p.1).

I know the results of this study ring true for me. I'm always happiest outside. For the majority of my winter break this year (and therefore the majority of the time I spent researching

this thesis) I was in Montréal. I've never spent so much time in such a huge city, surrounded by 1.6 million strangers, with little greenery in sight. I don't want to say I was miserable because I definitely wasn't, but I felt swallowed. I felt like I was swallowed up by the huge skyscrapers, and roaring subway, the trash littering the street. I was being wrung dry without realizing it, forced to spend my days inside due to the frigid cold. I felt anxious with the weight of my thesis, of the upcoming semester, of graduating and figuring out what to do with myself.

Then one day, sensing my anxiety, my partner Augustin looked at me and said, "we're going ice skating." We bought some dirt cheap ice skates and made our way up the "mountain" here (I use quotes because Mont Royal is not really a mountain to me. It's just a hill, but that's because I'm used to the Rockies and the Olympics). We walked up the hill and through the trees, which dripped with frozen raindrops as fresh snow shook itself from the branches. Finally, it was quiet.

Trees with their inky branches loomed over us as the Montréal skyline became smaller and smaller. With each step further up, I felt my lungs expanding and loosening little by little. The trees and the snow wrapped around us and pulled us away. We were muffled, protected from the harsh city sounds, from the honking and French swearing. As we reached the top of Mont Royal, we came across Lac aux Castors, where we saw dozens of other people ice-skating nearby. We had all escaped.

As I strapped on my ice skates and joined the other people dancing carelessly on the ice, it hit me; how much not only do I need this, but how other people need it as well. It's why everyone was here, to escape for a little bit, to feel fresh air and the ground moving underneath our feet (not from a subway this time, but from cool steel blades).

We danced on the ice. I failed miserably, shuffling every few inches with my arms swinging wildly around me. But my own laugh joined the sky along with children's screams of joy and the stars winking down at us.

The long trip back down Mont Royal made the poutine taste even better than it did before.

It's ironic to me that I wrote most of my thesis cooped up in a Canadian bookstore with what I'm pretty sure was a drug deal taking place just next to me and an intoxicated man punching a hole through a window near the subway station I get off at. Nonetheless, as I will write about later, we all can't just go to the forest or mountains when we are stressed. I think it's about finding those little pockets of fresh air, like buying ice skates and losing control of your feet and smelling the winter air.

Why You Should Always say "YES" to Diving into Freezing Water: The Biophilia Hypothesis

There is an idea that humans feel most at home in nature because that is where we evolved. This is known as the "biophilia hypothesis." Evolutionarily speaking, we've spent 99.9% of our time in nature, and our physiology is still adapted to it. Indeed, in general, naturalistic outdoor environments remain one of the few places where we consciously and simultaneously engage all five senses, and therefore by definition, feel fully physically alive.

This makes me think back to a mid-July day I spent with Augustin. He and I drove through the Deschutes National Forest to a crowded trailhead with a dirty sign marked "BLUE POOL." We stumbled and crawled up fallen rocks and through fallen trees until an electric blue glacial lake glimmered below, smiling playfully up at us. We excitedly hurried down to the shore. We were hardly the only ones there, as there were so many people at the pool on that hot,

hot day. I stuck my toe in the water, and instantly electric pain shot up through my feet and up into my chest. Dear God. This was indeed, a glacial pool, with dangerously freezing water. As I looked up, I saw the only person fully submerged was wearing a full body wetsuit. Nevertheless, I stripped down to my swimsuit as Augustin looked at me, his mouth agape.

“What are you doing?!” he laughed at me.

“What do you mean, what am I doing? I’m going in. When else in my life am I going to be able to swim in a glacial pool?” He shook his head at me.

I don’t want to act like I was the only person who was swimming in this pool. Screams of people who also decided to jump in periodically echoed across the water. As someone who grew up on an island, I learned at a young age never to tell secrets near a body of water, as sound carries incredibly well across water. Cries and moans of pain were in my ears as I stripped. But I was determined.

As I stood in my swimsuit, my toes slipping on an algae covered rock near a deeper section of the pool, I took a deep breath, and dove in head first. Absolute pain electrocuted me, every single one of my senses were on fire. I tasted the frigid water, I heard a dull ringing in my ears, I saw blurry trees towering over me as I resurfaced, I smelled the wet rock under the water, and I felt, along with an intense tingling throughout my body, pure joy.

I had never felt more alive. I truly was a working, living organism as my body fought the cold to keep myself alive. It’s like when I dove into a river in New Zealand 8 months later with my kiwi friend and we both described a moment of brief brain malfunction as soon as you hit the icy water. You don’t feel or think anything for about 2 seconds, and then you are reborn back into life, in the bottom of a river.

It's in this way I resonate with the biophilia hypothesis, and it's why I always say yes to diving into freezing bodies of water.

Elm Street

The moment I stepped off my flight from Denver to Redmond, Oregon, I was hit in the face with the smell of pine. And I mean the second I stuck my head out of the plane, my nose and my lungs were filled with the sweet, fresh taste of pine. I felt my whole body relax.

Don't get me wrong, I love Denver and I love being in the city, but there is something about coming home to Oregon and smelling the pine trees. It permeates through everything.

My parents sold my childhood home on Bainbridge Island shortly after I graduated high school. They moved to a little town called Sisters, which is about 30 minutes outside of Bend in central Oregon. While I felt betrayed as a sentimental, recent high school grad, it didn't take long for me to fall in love with Sisters. Now, I look forward to the summers I spend in Sisters, where I can wander through the expansive forests surrounding my parents' neighborhood. I can bike all the way up Elm Street, the Doobie Brothers bumping through my headphones. I can zoom down that road, completely alone, and go to a quiet spot next to the river. I can swim there by myself, with just the trees above me to keep me company and the hatchling fish below me that have somehow escaped from the hatchery up the river.

I walk everywhere here. My mom and I walk to the post office every single morning. My mom always says this is her exercise, and at the pace she walks, it certainly is.

I set off for a walk on a cold day in December of 2019. My dad came with me because, while I intended to take this walk on my own, a recent cougar sighting near the trailhead I planned to walk along quickly changed my mind. I decided that company was a good idea.

We headed away from downtown Sisters, walking up Elm Street, which runs through downtown but heads up to the base of the Three Sisters, the tall mountains that stand over my parent's house. My dad and I strolled about a mile away from the house to a network of winding trails that thread through the massive pine trees. I spotted huge paw prints in the snow that very well could have just been from a large dog, but I swore they were from a cougar, although my dad shook his head at me for my "ridiculousness."

We walked incredibly slow because of the ice that coated the trails. Of course, I fell a few times even though I moved my feet inch by inch. My dad laughed at me as an athletic looking woman ran past us as we shuffled along, her feet gliding across the ice with ease.

In this sense, it was easy for me to leave all my worldly engagements behind because I was so focused on not slipping and slightly paranoid that a cougar was ready to pounce on me. The air had that wintry smoky smell, and our fingers were cold even under our gloves. It was an hour of slow walking, laughter, and a quiet calmness. I felt free, like the child I was 10 years ago running wildly through the Grand Forest without a care in the world.

Taking time out of our days to separate ourselves from our offices, our anxieties, and our responsibilities reminds us of our innate connection to nature. Getting out of our heads is not only good for us, but it can remind us of the important things. Without notifications on our phones demanding our attention, we can remind ourselves how good a simple breath of air can feel. It's why I escape to Oregon whenever I can, to saunter freely down Elm Street.

My first stab at forest-bathing

The first time I truly tried forest-bathing was at the workshop I went to in mid-September. Clifford led a group of us down to the Eagle River near the coffee-shop his talk was

held at. We stood in a large circle, and Clifford invited us to close our eyes as he led us through a meditation. He went through each of the 5 senses and had us concentrate on exactly what we were feeling, seeing, smelling, tasting, and hearing. He invited us to extend our hands out, and to feel the air around us, to let our bodies point in whatever direction we felt most called to. As I stood there, trying to concentrate on the taste of the wind or the smell of the river nearby, I couldn't help but feel excited and connected within myself. I felt genuinely happy. I felt whole and inspired.

Afterwards, we got into small groups where we discussed what senses stuck out to us the most. It was odd how quickly I felt connected to these strangers in my group.

This is not necessarily the goal of forest-bathing, but nonetheless, my first experience was positive. I couldn't stop smiling my entire drive back to the city.

The Science Behind Forest-Bathing

In this chapter, I've highlighted research that I've found over the past few months regarding the science behind the therapeutic benefits of forest-bathing.

Anxiety and Depression

In an urban environment, we are, on average, less happy (MacKerron & Maurto, 2013). We are more exposed to stresses that affect our bodies on a biochemical level (Li, 2018). Stress in the forms of anxiety and depression affect nearly 20 million Americans every year (Sapolsky, 2003, p.87). Ideally, a body is in homeostatic balance, meaning the temperature, glucose level, and heart rate are at healthy, normal levels. Stress is a demand made on an organism to adapt or adjust their body back into homeostatic balance. Negative emotion occurs when this demand outweighs the coping abilities of the individual (Sapolsky, 2003).

Whenever someone comes into contact with a stressor (anything that knocks the body out of homeostasis), the body undergoes a normal response to that stress in an attempt to reestablish balance. First, two types of hormones are secreted from the adrenal glands; cortisol and epinephrine. These hormones are normally triggered by some kind of physical challenge; like a flight response from a predator, and will mobilize energy for muscles, increase heart rate and blood pressure, and turn off "non-essential" activities such as growth and digestion. This stress response can be triggered by the mere anticipation of a homeostatic challenge, such as walking through a dark alley, and thinking "I should be prepared to run." When a person constantly believes that a homeostatic challenge is going to happen, this is when they develop an anxiety disorder (Sapolsky, 2003).

The triggers caused by this release of hormones is actually the exact opposite of what happens to a person when they walk through a forest. Their heart rate slows, their blood pressure drops, and their digestion increases (Li, 2018, p. 65).

Throughout our day-to-day life filled with work, emails, phone calls, meals to cook, laundry to be done, dishes to clean, and traffic to get through, our cortisol levels are always slightly raised. Those with high cortisol levels and high blood pressure are at increased risks of heart disease, metabolic disease, and depression, making urban environments a vicious cycle full of stress that can lead to depression, which then can lead to more stress (Li, 2018, p. 67).

However, a walk in the forest can help, as forest-bathing can reduce these levels.

Air and Your Head

When we walk through forests, we breathe in aromatic volatile substances called phytoncides. Phytoncides are natural oils found within plants and make up the defense system of a tree. Phytoncides are released for protection for trees against bacteria, fungi, and insects (Williams, 2017). Tree species have very specific scents because phytoncides vary species to species. The largest producers of phytoncides are evergreens, such as pines, cedars, firs, and spruces.

Thinking back to my upbringing on Bainbridge Island and all the time I spent wandering through the tall firs, I remember the air tasting sweeter. During my summers in Oregon, the sweetness of pine in my mouth can almost be overwhelming. This is, in fact, due to phytoncides. The highest concentrations of phytoncides in the air occur in the summer, in the month of June (Lee et.al, 2015, p. 241). That sweet ponderosa pine phytoncide holds a fair amount of health benefits. Phytoncides reduce symptoms of stress, such as heart rate variability, in people when

breathed in (Kim et al., 2012, p. 249). Exposure to phytoncides also increases natural killer cells (NK cells), which are a type of white blood cell that protect us from disease agents by sending self-destruct signals to virus-infected cells as well as cancer cells (Li et. al, 2009, p. 956).

One study conducted in 2008 involved immunologist Qing Li bringing a group of middle-aged businessmen from Tokyo into the forest. For three days straight, Li had these men spend a couple of hours hiking every morning. After the three days, the number of NK cells in the men's blood had increased by 40% (Li, et al., 2008, p. 121). Furthermore, this increase of NK cells lasted for seven days after the experiment. (Li, et al., 2008, p. 121). Even *after* someone walks in a forest or does a forest-bathing session, the effects from those phytoncides can be felt for days after exposure (Li, et al, 2008, p. 121). Simply the act of being around trees and breathing in these chemicals benefits our immune system and can help us manage our stress.

In another study done by Dr. Qing Li, thirteen subjects slept in hotel rooms for three nights (Williams, 2017, p. 29). In each of these rooms, he had humidifiers, some with just normal water, and some with phytoncides from the stem oil from hinoki cypress trees. Those who slept in the rooms with cypress phytoncides had a 20% increase in NK cell count and reported feeling significantly less fatigued than those with plain water humidifiers (Williams, 2017, p. 29). Results from Dr Li's own research have found their way into his lifestyle. Every night, he sleeps with a humidifier containing oil from cypress trees.

This is something that has inspired me. My freshman year roommate in college, who is now a rock-climbing guide in Patagonia, Chile, got me into essential oils. I didn't think much about any health benefits that can come from essential oils. I just liked the smell of lavender. Now, I'm intrigued to design my own essential oil blends that include oil from hinoki cypress trees.

Soil and Your Head

In the soil beneath our feet as we walk through a forest lives a bacterium called *Mycobacterium vaccae*. While these bacteria have been known for a while, their health benefits have been more recently explored. The discovery of this bacteria in the medical world came after a doctor wanted to see how *M. vaccae* affected her lung cancer patients. Previously, *M. vaccae* had some success in earlier trials where it was tested for abilities to fight drug-resistant viruses. Wanting to continue research on the harmless bacteria, the doctor injected her patients with a small dose of the *M. vaccae*. Although the bacteria didn't prolong the patient's life or affect survival, *M. vaccae* "significantly improved patient quality of life" (O'Brien et. al, 2004, p. 906). The patients were consistently happier, with a higher cognitive function, and expressed much more vitality than before (O'Brien et. al, 2004, p. 906). Other studies since have supported the overall themes found by Dr. O'Brien. For example, several other studies found that mice fed these bacteria would complete maze activities twice as fast as other mice not fed *M. vaccae* and demonstrated a reduction in anxiety-related behaviors (Matthews et. al, 2013, p. 27, Lowry et. al, 2007, p. 756). One study even found an increase in serotonin levels in rats exposed to *M. vaccae* (Williams, 2017, p. 29).

I feel like as children we have a very intimate relationship with soil. I know during my childhood, there would rarely be a day I didn't come home without dirt all over me. My feet especially, I loved being barefoot, and I still do, even today. I feel like this is something that we grow out of as adults. If we see someone walking around barefoot, we often feel uncomfortable. There's almost a danger in being barefoot. We wear shoes as protection, as a barrier between ourselves and the earth. However, there's something about feeling dirt in between my toes, on the very soles of my feet- and now I've learned there's actually a physical benefit as well.

Plants in the office

I remember the freshest, cleanest breath of air I have ever taken. It was during a First Friday Arts walk in downtown Denver on Santa Fe. It was the first Friday of November, and Denver's fall weather was playing its normal tricks on people. That night blasted us with a wind that aggressively spread the dank smells of the city, all the while being deceptively clear with the stars, smug, twinkling down at us. I was freezing and blind from the dirt particles the wind had sprayed into my eyes. The air smelled the way it always does before a big storm; like the manure the winds carried south all the way to Denver from Greeley.

I was overwhelmed by my sense of smell, and pushed my way into the nearest shop, which was called the Green Lady Gardens. The second I stepped through the door, I felt as though a pillowcase had been lifted off my head. The store was a nursery, covered from floor to ceiling with a wide variety of plants.

Immediately, I think back to that girl I met up in Edwards, Colorado, and how she told me she felt like she couldn't breathe in the city. Yet, here I was, in the city, breathing air that made it possible for me to think clearly again.

My feeling of clarity in Green Lady Gardens is backed by science. One study done at Washington State University had a goal to examine the impacts of office plants in a windowless working environment on human productivity and well-being. Participants' blood pressure and emotions were monitored while they completed a simple, timed computer task either in the presence or the absence of plants. Responses of test subjects in the presence or absence of office plants were compared, and results showed that when plants were added to the windowless office, participants were more productive (12% quicker reaction time on the computer task), less stressed (systolic blood pressure readings lowered by one to four units), and, immediately after

completing the task, participants in the room with plants present reported that they felt more attentive than people in the room with no plants (Lohr et al., 1996, p. 96).

A lot of citizens, myself included, can't simply pack up all of our belongings and move up to Edwards like that girl did. I have responsibilities here and commitments to the city I can't let go of. But I can definitely add some plants to my room and spend more time in nurseries, like the little plant shop near my house.

Biophilic Design (AKA, how a room with a view can change you)

One of the most astonishing studies I have come across since researching forest-bathing is one conducted by a man called Dr. Roger Ulrich, who did a study in a suburban Pennsylvania hospital between 1972 and 1981. He went around the surgery recovery floor of this hospital and interviewed patients in different rooms. Some of these rooms had a window overlooking deciduous trees, while others had a view of a brick wall. Amazingly, on average, those with the view of nature healed much faster from their surgeries than those who had a view of a brick wall (Raanaas et al., 2012, p. 21). Additionally, nurses gave the patients with the nature view fewer negative evaluations and gave their patients fewer pain injections (Raanaas et al., 2012, p. 21).

The results from this study prompted Dr. Ulrich to stress the importance of the design of hospitals to include more views of nature in patients' rooms. Dr. Ulrich continued his research on physical stress recovery in nature, but this time using mere images of nature. He performed an experiment wherein he exposed 120 students to stressful videos of bloody movie scenes and measured the response of their sympathetic nervous activity (Williams, 2017, p. 26). Rises in skin conductance (the increased production of sweat from glands on their skin), as well as an increase in heart rate and blood pressure indicated that they were distressed. After exposure to

this distressful video, some students watched a ten-minute video of nature scenery, and some students watched a ten-minute video of urban scenes. Those who watched the nature video returned to their baseline level of sympathetic nervous system activity within five minutes, while the sympathetic nervous system of those who watched the urban videos only partly recovered after more than 10 minutes (Williams, 2017, p. 27).

Studies like these open the door to a new field known as biophilic design, which is defined by environmental psychologist Judith Heerwagen as the “expression of the inherent human need to affiliate with nature in the design of the built environment” (Edwards, 2019, p.89). Heerwagen describes biophilic design as critical to human performance and well-being. It’s about bringing our connection to nature into the urban world, into the indoors, where the average person spends between 80- 90% of their time (Deng et al., 2018, p. 36087).

Indeed, several studies have discovered similar results to what Heerwagen writes, including a study done by architects Bill Browning and Terrapin Bright Green called, “The Global Impact of Biophilic Design in the Workplace.” The two surveyed 7,600 employees from 16 different countries and asked questions about their work environment and their emotional well-being. They found that 58% of the 7,600 employees had no greenery in their office, while 47% had no natural light. Of those with greenery and natural light, they found these employees had a 15% higher level of well-being, a 6% higher level of productivity and a 15% higher level of creativity (Edwards, 2019, p.89).

I personally believe these higher levels of well-being in Browning and Green’s study, as well as both of Dr. Ulrich’s studies, have to do with classical conditioning. Classical conditioning occurs when a neutral conditioned stimulus is paired with a biologically significant unconditioned stimulus (Comer et al., 2018, p.46).

The classic example of Pavlovian conditioning is the dog and its food. The unconditioned stimulus is a bowl of food placed in front of the dog, and the unconditioned response is saliva production. However, if the bowl of food is always placed in front of the dog with the sound of a bell ringing (a conditioned stimulus), over time, the dog will pair the sound of the bell with a bowl of food in front of them. Therefore, if the dog hears the sound of the bell, it will start salivating because it has paired the bell with the food being brought out.

My theory behind biophilic design is that humans have paired the biological benefits of being in nature with mere images of nature. In other words, when we are out in nature, we enjoy the benefits of the phytoncides and the bacteria, and, most importantly, we feel happy.

I believe this has been unintentionally classically conditioned in humans across generations. When we see a photo of a tree, we subconsciously (and sometimes consciously) feel better because we have paired the happiness we feel in the wild and the biological benefits of nature with the image of a tree. Dr. Lohr from Washington State University believes in a related concept; she suggests that humans are evolutionarily wired to recognize that plants are essential to survival, so we intuitively “sense that contact with plants and nature is restorative and calming to the human spirit” (Lohr et al., 1996, p. 97).

I can’t help but think about how important architecture and interior design is in regards to our mental health. Why doesn’t Regis include more photos of trees and nature settings in our classrooms?

Nature as a Therapist

The relationship we have with nature is quite different than one we may have with a psychologist. The Diagnostic and Statistical Manual of Mental Disorders is the manual clinical

psychiatrists use to help diagnose a patient with a disorder they may be struggling with. A criticism of the DSM is that oftentimes psychiatrists are too quick to diagnose a patient or fail to look beyond a certain set of symptoms listed within the manual (Lewis, 1978). When someone is diagnosed, a label is placed on them, and that label is powerful. The labels and roles assigned to people struggling with mental health can greatly influence their cognitive functioning (Walker & Shapiro, 2010, p. 266).

This is where the idea of nature as a therapist can start to look more attractive. Nature doesn't use the DSM or try to put a patient in a box with a disorder. It is an unbiased relationship. Being able to practice psychological exercises without a label over your head is a much different experience of healing than interacting with a psychiatrist. While this is something I believe, I do not want to discredit the importance or power of therapy with a clinical therapist. Counseling and cognitive behavioral therapy itself is a raw, personal relationship between a client and a psychologist, and it is incredibly effective at treating a variety of disorders (Gallagher et al., 2020). I simply want to argue that nature too, can be a therapist and something to seek comfort in.

Another way to look at nature therapy is to view it as an ecosystem service. Ecosystem services are defined as the conditions and processes through which natural ecosystems, and the species that make them up, sustain and fulfill human life (Msofe et al., 2020, p.1) An example of an ecosystem service could be a mangrove forest on the coast, buffering the coast from strong waves that may cause damages to homes and properties; something nature does from which we as humans benefit.

I would like to argue that nature provides a psychological ecosystem service for humans; it can be used as a form of therapy. Am I saying that those suffering from schizophrenia should

turn to the forest as their sole form of treatment? Absolutely not. Some people will always need medication. However, there may be benefits to a calming environment for those diagnosed with schizophrenia. In fact, I recently read a piece about an anthropologist who was conducting research on schizophrenia in Zanzibar. What she was trying to figure out was why people who are diagnosed with schizophrenia in developing nations have a better prognosis than those living in industrialized countries. Those who lived in urban settings in the US and Europe seemed to suffer more from the disease than those living in rural settings, regardless of the country (Watters, 2010, p. 128).

Those with schizophrenia who had a high relapse rate are often surrounded by people with “high expressed emotion,” which can be separated into three main emotional reactions: criticism, hostility, and emotional overinvolvement (Watters, 2010, p. 152). Emotional overinvolvement includes a range of behaviors such as dramatic expressions of self-sacrifice, over-protectiveness, and intrusiveness on the patient’s life. An example of this would be a mother so overly concerned with her daughter’s illness, that she quit her job and all other hobbies to stay at her daughter’s side 24/7.

While the piece I read focused on schizophrenia, researchers have also found a connection between an increased rate of relapses of other mental disorders and high expressed emotion households across cultures (Watters, 2010, p. 153). In fact, another study examined emotional rates between a patient diagnosed with major depressive disorder and their spouse. The study found that high expressed emotion in the spouse of the patient corresponded significantly with a greater severity of depression of the patient (Florin et al., 1992, p. 163). A different study also evaluating patients diagnosed with depression and their relationship with their spouses discovered that, over a nine-month follow-up, 59% of patients with high expressed

emotion spouses relapsed, while no patients living with low expressed emotions spouses did (Hooley et al., 1986, p. 642).

Low expressed emotion households generally have an overall calm emotional tone, which as seen in several studies, may correspond to a lower severity of depression (Florin et al., 1992, p. 163, Hooley et al., 1986, p. 642). It has been proven that nature promotes a feeling of calm in people, and therefore can be seen as a low expressed emotion environment (Hull, 1992, p. 322). This is yet another reason why I believe that time in nature is crucial in promoting the mental well-being of those with mood disorders. I also feel it is crucial for people who do live in high expressed emotion households to have a space where they can come into a low expressed emotion environment.

In my own moments of feeling anxious or depressed, I find myself craving the calmness of nature. To me, it is a space where I can breathe and let go of all other responsibilities nagging me. It's why many people find comfort in forest-bathing.

Learning to Bathe

In this section, I've criticized Clifford's method of forest-bathing after attempting it. The method is Clifford's "Optimal Flow" which he outlines in his book, *Your Guide to Forest Bathing*.

How to Forest-Bathe

Forest-bathing is a form of meditation that involves completely immersing our senses into the qualities of a forest. It can be thought of as a vessel in which we let nature into the body through all five senses. To forest-bathe, one must walk slowly and give absolute attention to their senses. Forest-bathing originated in Japan and is known as *shinrin-yoku*. In 1982, a national health program for forest-bathing was first introduced to gather more research and information on the benefits of nature. The term was invented by the Agency of Agriculture, Forestry and Fisheries of Japan. While the director of the agency truly believed the people of Japan were in need of healing through nature due to the mass amounts of urbanization occurring, the idea of *shinrin-yoku* was also part of a campaign. If people were encouraged and recommended to visit forests for their health, then they would be more likely to want to protect them.

According to Clifford, the founder of the Association of Nature and Forest Therapy Guides and Programs, there is a certain "Optimal Flow" to forest-bathing. I have briefly summed up each of the eight steps he outlines in his book *Your Guide to Forest Bathing*:

1. *Have a firm intention to forest-bathe.* It is crucial to completely dedicate the next few hours to just forest-bathing. According to Clifford, forest-bathing is not a hike. In order to have a good session of forest-bathing, it's necessary to be intentional about it before you even begin.

2. *Begin with a threshold to ceremonially mark the start of the forest-bathing walk and set it apart from other experiences.* Clifford suggests this step of forest-bathing as a part of intentionality. While there may be a trailhead or an entrance to the forest you wish to do this exercise in, it's important to create your own threshold, such as a branch on the ground, and cross over it. Once you step over this threshold, the forest-bath has begun.
3. *Stay in one place for at least fifteen minutes, using your senses to explore here, now.* During this step, you must give attention to three different things: your surroundings, your body sensations, and how your senses come in contact with the forest. This step is about preparing the body for a fully immersive walk. In this step, you should go through each of the five senses and focus on them, possibly in these ways:
 - a. *Touch:* What are the ways the forest touches you? What sensations are on your skin? Do the sensations change?
 - b. *Sound:* What sounds are around you? What is the loudest sound, and the quietest sound? Are there any patterns in what you are hearing? How does it feel to have your own breath be a part of the symphony of sound?
 - c. *Taste:* What tastes is the forest offering in the air that you are breathing? How does it taste?
 - d. *Smell:* Notice what scents are being offered by the forest. How do the scents change as you move your head? Do the smells change as you crouch lower to the ground?

- e. *Sight*: Close your eyes and slowly turn in a circle until you are facing a direction that feels right to you and open your eyes. Let the forest reveal itself to you slowly, like a developing image on a Polaroid.

After you explore your senses for a good 10 to 15 minutes, you can move on to the next step.

4. *Walk slowly for twenty minutes, noticing what is in motion around you.* It is crucial to walk slowly. Forest-bathing is not the same thing as hiking. If you begin hiking at your normal pace, it means you have lost focus. Move slowly.
5. *Choose one to three invitations that are a good fit for the place, the weather, the people, the mood.* Notice what the forest invites you to do. Perhaps a nearby stream invites you to put your hand in it, or a pile of dirt calls you to touch it. This part of the Optimal Flow is known as the “Infinite Possibilities” because there are so many different invitations the forest may offer, and this part can last for nearly two hours. For me, my invitation often is the scent of pine needles. This aroma alone is enough to pull me out of my house and into the forest.
6. *Sit for twenty minutes.* Clifford calls this “Sit Spot.” He also describes this as the “slow reveal,” where the longer you sit, the more you notice around you. You aren’t looking for observations but letting things around you reveal themselves to you. Journaling is optional here.
7. *Hold a tea ceremony, with snacks and conversation.* This step helps you begin to transition out of the forest bath. Oftentimes, while forest-bathing, guides will pick herbs they discover while they are doing the meditation and brew them at the end of

the session. This is called “trail tea.” This step is really just an opportunity to share a pot of tea and converse with the people you went on this journey with.

8. *End with the Threshold of Incorporation, marking the end of the forest bath and your return to ordinary experiences.* If you placed a stick down as a threshold back in step 2, return to it, and cross back over to signify a formal end of the walk. If you didn’t, choose a new place to cross this second threshold, and consider the gifts you received during your forest bath.

These are the 8 steps Clifford has written as a guide to those who want to try forest-bathing (Clifford, 2018, pp. 64-83). I don’t think there is a right or wrong way to forest-bathe, nor do I think that is what Clifford wants people to believe; he just developed this method as a way for people to begin to practice. Forest-bathing is a highly personal activity, involving yourself and the forest around you.

Forest-Bathing on Ute Pass

For my first “genuine” structured forest-bathing experience, I spent the night up in the mountains in Silverthorne, Colorado in a friend’s cabin with my two friends, Lizzy and Antoinette. We woke up early in the morning and drove along twisty Highway 9. The three of us had all agreed to attempt Clifford’s step by step method of forest-bathing (the Optimal Flow). I briefly explained the steps to my friends as we drove further into the mountains and further away from people. They both had previous meditation experiences and were eager to try out this new method with me.

We arrived at a trail head about thirty minutes from the cabin. As we crossed the road to the trailhead with our feet crunching the frosty gravel beneath us, we firmly acknowledged that

our intention for the next two hours was to simply be present in the forest, not to hike. Once we established this, we walked to the trailhead and began walking on the path. After a few minutes of walking, I drew a line in the snow to represent the threshold that we were officially commencing our forest-bathing session. Once we crossed this threshold, we looked for an invitation from the forest to begin our meditation. As we crossed the line, a small clump of snow melted from a branch and fell to the ground with a soft thud. We took this as acceptance from the forest to begin, and found a pleasant place in the snow to sit.

I guided us through a meditation where I asked a series of questions and led us through each of our senses. I started with our sense of touch; do we notice ways the forest touches us? What sensations do we feel on our bodies, and do they feel different in different places? For the three of us, the most obvious and difficult sensation was an overwhelming, bone-chilling, cold. Bringing my attention to my sense of touch only heightened how numbingly cold I felt.

Then, we moved on to focusing on our sense of hearing. In the stillness, we could hear the wood of the trees around us creaking, and the soft sound of snow sliding off of branches. Birds tweeted above us, and a distant wind roared in the valley close to us. My sense of hearing is always something I enjoy focusing on, and it was incredibly peaceful in this moment to do nothing but listen.

Our sense of taste was lacking, most likely because of how cold it was. It was hard for me to focus on my mouth when the rest of my body was freezing. I will say that we could faintly taste a rich earthy flavor, but it was easier to smell it than it was to taste it. The smell of pine was ever present, as well as the smoky smell that always seems to come out during winter.

Finally, when we focused on our sense of sight, it almost felt insignificant. Normally, I solely focus on my sense of sight and what I can see. To only concentrate on one sensation in my

body at a time painted a different image of the forest for me. Don't get me wrong, the forest looked absolutely beautiful, with sunlight streaming through the branches and snow falling from the tops of the trees all the way down to small piles on the forest floor. But I felt I had a bigger picture of the whole forest, and it was lovely.

After we ran through all of our different senses, we began to walk slowly through the forest. We didn't want to walk at a normal hiking pace, and lucky for us, it would have been difficult to, given the deep snow we had to walk through. Still, it was hard for me to walk slowly and engage with my surroundings. We did our best, and walked through the trees for a while, before we found a spot to sit and begin the next step of the Optimal Flow: Infinite Possibilities.

This step was very challenging and confusing to carry out on our own. We attempted to look around and see what the forest was "inviting" us to do. This step of the Optimal Flow is supposed to last for two hours, but we struggled to wander around and see what we were called to do. I felt compelled to eat the snow, and so I did. I romped around for a bit and jumped in a snowbank, but I didn't necessarily feel more connected to the forest when I did so. My friends had the same experience, so we ended this step earlier than what was called for, and moved on to the next step, called Sit Spot. For this step, we simply sat down and focused on our surroundings, not our senses. This step was pretty simple, and after maybe 20 minutes, we moved on.

We didn't pick herbs for teatime, which is the second to last step. None of us felt qualified to do so, so we instead split a beer. Technically, this is the same concept outlined by Clifford. We had an open conversation about the experience we just went through, while enjoying a beverage. Overall, we enjoyed the Optimal Flow, although some parts felt very inorganic. However, we all felt relaxed and happy to be where we were; away from campus and the city. We returned to the original threshold I drew in the first part of our forest-bathing session

and jumped over it to signify the end of our meditation. Then, we drove as quickly as we could back to the cabin, where we could dry our bodies and socks in front of the fire.

Criticisms of the Optimal Flow

The hardest thing for me to accept about this method is the amount of structure surrounding it. When in nature, I am free. I don't like the idea of following a strict set of steps to relieve stress from my life, when, the most obvious way for me to reduce negative emotions is to run and breathe freely in nature. However, I do understand how such strict structure makes sense in regards to forest-bathing and meditation.

I definitely struggled with the walking slowly step. This step was, and still is, very difficult for me. When I'm out in nature, I feel like a child again. I feel overwhelmingly small in the face of the earth. I don't want to take the time to walk slowly through nature and see what presents itself to me. I want to romp around and roll around and be dirty and walk on trails I shouldn't be walking on. As difficult as this step was and as much as I wanted to fight it, I know it is good for me to try and slow down while I walk to pay attention to things I don't normally notice.

This step is like walking backwards to me. What I mean by this is that it reminds me of when I'm hiking up a trail and I'm so focused on getting to the top, that when I finally start making my way back down and face the trail the opposite way, I notice views I completely missed the first time. While walking slow is difficult, I know it's good for me.

I struggle immensely with the "Infinite Possibilities" step. Scanning the forest and looking around for things that the forest is "inviting" me to do feels inorganic to me. I also feel it's a very anthropocentric thing to assume there are things the forest compels *us* to do. Why

can't we just enjoy the forest as it is? I understand this step is aimed at making us feel more comfortable and closer with the forest, but it felt very forced to me. I felt as though I was scanning my surroundings trying to get something to jump out at me as a "calling" from the forest.

Overall, I enjoyed and valued some parts of the Optimal Flow, but also found a lot of it unbeneficial. I definitely want to incorporate certain parts of the Flow into my own forest-bathing design.

An additional criticism that I have is not necessarily of the Optimal Flow, but of the Association of Nature and Forest Therapy Guides and Program. The association seems to be attempting to make a profit off of the environment. To actually become certified as a forest therapist costs nearly \$4,000.

As stated on the website for the association:

Tuition for all Forest Therapy Guide Training Programs is \$3570 USD. We offer early bird pricing of \$3170 USD up to 6 months prior to the training start date. Tuition includes the seven-day training and the following six-month practicum.

Lodging, transportation and food costs are separate from tuition. The cost will vary with each training. Please check the venue area in the description of the training you are interested in.

Certification requires a Wilderness First Aid Certification (or equivalent in regions where Wilderness First Aid training is not available). This 16-hour course is provided by several different organizations and costs range from \$125 USD to \$250 USD. We provide resources for you to find a course near you during your practicum.
(natureandforesttherapy.org).

Of course, not everyone who wishes to practice forest-bathing needs to become a guide and go through the program, but just the outrageous amount of money it would require for someone to do a week- long training, followed by a six month practicum seems absurd to me.

The cheapest form of Clifford's version of forest-bathing is probably through his guide, which I purchased for \$15. A forest- bathing walk with a guide can be anywhere from \$30-\$150. Therefore, the book is going to be the most easily accessible source of information for newcomers to forest-bathing. I think this is what bothered me about Clifford. Forest-bathing isn't accessible to everyone due to economic status. I don't think nature should ever be commodified. As Henry David Thoreau says, "all good things are wild and free."

Conclusion

As I noticed in my introduction, there is a lack of practicality when Clifford writes about forest-bathing. Therefore, after my research and reflection, I couldn't help but make a list of my own guidelines of forest-bathing, guidelines that anyone can use. However, if I've learned one thing throughout my research, it's that our connections to nature are highly personal. My rules are for me, but feel free to practice them!

1. Walk away from civilization.

- I encourage people to walk away from the city they inhabit. Perhaps this means you need to take a subway to get out of the city. That's okay; it can be part of your forest-bathing process. Or perhaps this means you walk through a park in your city rather than on the streets. There are so many sounds in urbanized areas, and even urban parks do a lot to muffle the sounds of people hustling. My favorite thing about being in nature is to experience the quiet and to hear my own heartbeat. If I can hear my body, I can listen to what it needs.

2. Be aware of your senses, but don't let them control the walk.

- While I felt restricted by Clifford's steps in the Optimal Flow, I do think there is a lot of value in putting extra focus and awareness on the five senses. I say this from my own experiences of diving into icy waters or breathing in the scent of crushed pine needles. Focusing on my senses makes me feel more alive and slows my thoughts down. I don't think it's necessary to stop walking and dedicate a set amount of time to each of the senses. This is inorganic to me. It's as simple as noticing which of your senses heighten as you walk. Why do they heighten? Where is the source of the smell, sound, or taste?

3. Leave your phone behind.

- I truly believe you need to leave your phone behind, or at least turn it off in your pocket. It's so easy to lose focus when your phone dings. Don't get me wrong, I love my phone. It keeps me connected to the people I love the most in my life. It's an incredible piece of technology we are lucky to have, but to forest-bathe properly, to enjoy nature properly, leave it in the car. We don't always have to take a picture.

4. Do whatever you want.

- The most important "rule" in my method of forest-bathing is this: do whatever you want. Be free. If you want to run instead of walk slowly, do it. If you feel pulled to just sit down in the middle of the trail, do it. There's a reason why your body is telling you to do something. Let your inner child out. For me, this means taking off my shoes. Obviously, this isn't something to practice in the winter. But I never feel more connected to myself or the earth than I do when my toes are in the dirt.

Again, as I said before, I strongly believe forest-bathing and walking in the woods is highly personal. There is no wrong or right way. In fact, there are many different ways people practice their own version of forest-bathing. Many argue that American Transcendentalist Henry David Thoreau practiced forest-bathing long before it was ever named. Thoreau writes:

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. (Thoreau, 1862, p. 658)

Throughout the duration of reading, writing, and researching for this thesis, writings by Thoreau nagged at me constantly. Ever since my high school American Literature studies class, Thoreau has always struck a chord with me. I played around with the idea of writing a chapter on Thoreau for my thesis, but one chapter wouldn't do him justice. I would need to write an entire thesis dedicated solely to him, but I need to at least mention him in this one.

Thoreau wrote often about the deep, psychological impact nature had on him. As he explains in his essay "Walking," he practiced "sauntering", which is derived from "idle people who roved about the country, in the Middle Ages, and asked charity, under pretense of going a la Sainte Terre" (Thoreau, 1862, p. 657). "Idle people" may refer to the "commoners" of society. These were the people who didn't reside in a place of power, who didn't have the luxuries of the upper class. They were the people who couldn't afford to drop everything and move up to the mountains, like that girl in Edwards. Their source of comfort and creativity was walking where they could. When Thoreau sauntered the same way "idle people" did, it led him to "self-discovery and spiritual renewal" (Smith, 1996, p. 130). He would walk in nature more than any other activity, for at least four hours every day (Smith, 1996, p. 130). For this reason, many people suggest that Thoreau forest-bathed throughout his life.

Comparable to Clifford, Thoreau would engage in a similar sort of seeking "invitations" which Clifford describes in step five in his guide. Thoreau would frequently pick and eat berries as he walked: "the slight distraction of picking berries is favorable to a mild, abstracted, poetic mood, to sequestered or transcendental thinking. I return even more fresh to my mood from such slight interruptions" (Smith, 1996, p. 138). He would drink from streams if he felt called to do so: "I do not drink in vain. I have swallowed something worth the while. The day is not as it was before I stopped to drink... There were some seeds of thought, methinks, floating in that water,

which are expanding in me” (Smith, 1996, p.138). In both of these passages, it’s clear to see Thoreau is interacting with the environment the same way Clifford invites us to seek invitations around us. After eating the berries he picked, Thoreau is “even more fresh to my mood from such slight interruptions,” the same way drinking from the stream changed his day; “the day is not as it was...” These shifts in his mood nod back to when Clifford writes how forest-bathing “calm[s] the mind and deepen[s] our connection to the present moment” (Clifford, 2018, p. 35). By pulling himself out of his head and into the present moment, Thoreau’s connection with the forests he sauntered through deepened when he paused in these small moments.

After briefly pouring over Thoreau’s writings, I began to wonder what it would be like to walk like Thoreau, to saunter like him and to treat walks as therapy. From the small amount of research I’ve gathered on Thoreau, it’s clear to see the connection between him and forest-bathing. I want to propose a future experiment and further studies on Thoreau, perhaps for myself after I graduate with my undergraduate degree. I want the knowledge I’ve gathered and played with throughout my thesis to develop throughout my life. Writing about nature, especially the Grand Forest, has permeated the large number of papers I’ve written during my time at Regis. For my admission essay for the Honors Program at Regis, I wrote about my fascination with the mythical creature Bigfoot:

I grew up in the Pacific Northwest. I spent my childhood running around aimlessly in the huge forest by my house. My siblings and I would come home caked in douglas fir needles to our exasperated mother, a plate of cookies in one hand, warm washcloths in the other. I’m not going to lie; it was quite the sweet deal for a grubby kid.

My first research essay in college was titled: “Treegis University: How Natural Campuses Can Benefit Anxious Students,” in which I researched the way Regis’ arboretum helps “students

combat the high anxiety of the education system with the interconnectedness of nature by striving to eliminate negativity.” Throughout my education, this is a topic that has always stayed with me, and it’s not something I’m ready to let go of when I graduate.

As I sat down to write the conclusion to my thesis, I felt an urge, fueled by my anxiety of finally finishing, to go for a walk. So I did, out on a dreary March day in central Oregon. As I stepped out of the house, the smell of pine wrapped itself around me like a familiar hug. It was quiet, except for my racing thoughts and the deer across the street eating my neighbor’s bushes, like they always do. As I walked, with each step, my thoughts slowed until they came to the bittersweet realization that I’ll never really be finished with my thesis. How could I be, when this is something that has been swirling in my thoughts since I was a child? Seeking calm in nature, wanting to walk in quiet places, appreciating, loving, and above all, being in nature is genuinely a part of my soul. It’s something I am too passionate about to ever stop writing about, and it’s why I’ve been avoiding writing my conclusion, or even giving a title to my thesis because it brings about this moment of finality that doesn’t make sense in my head. Because this isn’t over, nor will it ever be for me.

Annie Dillard says, “how we spend our days is, of course, how we spend our lives.” I know how I spend my days. I spend them climbing to the tops of trees, running through twisting trails, mastering Sasquatch calls to search for the mystical beast myself. I spend them jumping into countless pools of icy water, hiking mile after mile, crying near babbling creeks. And I know how I’ll spend my life, forever sauntering through forests, seeking out what little pockets of nature I can find. I will spend my entire life connected to wilderness, forever codependent on ponderosa pines.

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