CHAPTER 16

Fostering Reorienting Connections via Ecological Practices

Mark Hathaway

> Is it not ludicrous to … speak to other organisms and elements as though they could understand? Certainly not, if such is the simplest way to open our ears toward those others, compelling us to listen, with all our senses, for the reply of the things.
>
> To be sure, the valleys and the oaks do not speak in words. But neither do humans speak only in words. We speak with our whole bodies, deploying a language of gesture, tone, and rhythm that animates all our discourse.
>
> —David Abram (2005, p. 189)

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Many of us have at times experienced a sense of profound connection with the more-than-human world. It may happen when we are children playing outdoors—wandering deep in the woods, sitting in a tree in our backyard, or playing on a vacant urban lot. Later in life, we may experience such connections walking by the seashore, climbing a steep mountain path, sitting by a rushing river, or encountering a bloom of flowers in the desert. In such moments, we may be enveloped by a deep sense of awe, gratitude, joy, or love. These times often transform us forever by helping us experience ourselves as part of a greater community of life and inculcating a sense of care for other beings. The changes such experiences bring about in us may be gradual and subtle, or sudden and deep (Hathaway, 2018), but they may indeed shift us toward an ecological consciousness that dramatically alters "our way of being in the world" (O'Sullivan, 2002, p. 11).

These experiences—which I refer to as reorienting connections (Hathaway, 2018)—both resemble and differ from the disorienting dilemmas described by Mezirow (1978, 2000) as the initial impetus for transformative learning. Disorienting dilemmas engender cognitive dissonance that stimulates deeper self-examination, leading one to reassess basic assumptions and values that result in more inclusive frames of reference (Kennedy-Reid, 2012). While reorienting connections may lead to self-reflection and shifts—not only in frames of reference, but in consciousness itself—they are seldom accompanied by the feelings of shame, anger, guilt, or fear that Mezirow describes. Moreover, the shifts in consciousness do not appear to depend on critical self-examination, although reflection may deepen—or at least, help articulate—the transformations experienced (Hathaway, 2018).

Reorienting connections may foster transformative "learning toward an ecological consciousness," enabling persons to overcome an "instrumental consciousness" which perceives the world as a mere storehouse of raw materials and move toward an intersubjective worldview rooted in a "wider sense of connection with all the powers of the world" (O'Sullivan & Taylor, 2004, pp. 11, 13). The world is no longer perceived as a mere "collection of objects," but rather as a "a communion of subjects," a living Earth community (Berry, 1999, p. 82). For this to occur, we must learn "*our way into* seeing, acting, and understanding" so that we can "survive the despair of our current condition" and "create an expansive, life-giving vision" which engages the human spirit and fosters ecological

values such as connection, generosity, reciprocity, mutuality, and celebration (O'Sullivan & Taylor, 2004, p. 3, emphasis in original). One way to encourage such a vision and foster a sense of connection with other beings may be to nurture self-transcendent emotions like compassion, gratitude, and awe which "help individuals form enduring commitments to kin, nonkin, and social collectives" (Stellar et al., 2017, p. 6)—and with the more-than-human world.

In a study of over 30 educators and activists conducted by Hathaway (2018), countless stories of deeply transformative encounters with other beings, including ants, shrimp, spiders, bees, eagles, rhinos, deer, groundhogs, horses, maple trees, giant redwoods, and even stones emerged. Many participants also recounted joyful experiences of playing outdoors as children or being filled with awe while immersed in the beauty of nature. Often, these experiences led to deep feelings of wonder, reverence, gratitude, and empathy that built a sense of connection with the more-than-human world. The analysis of the stories suggested that—while disorienting dilemmas related to the ecological crisis often contribute to transformative learning—experiences of awe, gratitude, beauty, and intersubjective connection with other beings—or reorienting connections—appear to play an even greater role in the emergence of ecological consciousness. Indeed, these experiences were mentioned more frequently and with greater elaboration and emphasis than experiences which would correspond more closely to disorienting dilemmas. Similarly, Chawla's (1999) work on significant life experiences suggests that positive experiences of natural areas play a larger role in fostering pro-environmental commitment than the disorienting dilemmas that accompany experiences of pollution or habitat loss.

Over the course of this chapter, the experience and transformative potential of these reorienting connections will be explored by considering a case study involving undergraduate students engaging in a series of ecological practices designed to foster a sense of connection with the more-than-human world. After describing the study and some of the key theoretical underpinnings of the practices, the chapter considers a sample of student experiences, grouped by similarity. After examining some of the reported transformations and benefits experienced, some possible implications for transformative learning theory are considered.

Reorienting Connections in Practice

Is it possible to foster experiences of reorienting connections? To see how such connections might be cultivated in practice, I gave students in a third-year ecological worldviews class at the University of Toronto the option of engaging in outdoor, meditative practices based on Sewall's skill of ecological perception (1995, 1999) and related insights from ecophenomenology (Abram, 1997, 2005). The students who chose this option had to keep a journal and write brief reflection papers as a course assignment.

The students began their practices with an orientation in late September in a local park. I led the students in an elemental breaths meditation—based on a traditional practice by Sufi teacher Hazrat Inayat Khan—that fosters a sense of connection with earth, water, fire, and air through time, emphasizing the interdependence of all life. I then led the students in a walking meditation—based on both Sufi and Buddhist practices—to help cultivate a dynamic perception of connection with breath and the ground we walk upon. Finally, each student engaged individually in intersubjective meditation; each student sought out at least one other-than-human being they were drawn to and used all their senses to perceive what that being was communicating or teaching them.

In designing the practice of intersubjective meditation, I drew on ecopsychologist Laura Sewall's skill of ecological perception (1995, 1999). Based on research on neuroplasticity that demonstrates that new brain synapses are cultivated via the use of focused attention and ongoing practice, Sewall (1995, p. 204) proposes a "devotional practice" to foster ecological perception with five dimensions:

- Learning to attend: Being mindful, paying attention to beauty, form, color, and texture;
- Learning to perceive relationships and context: Seeing a being in-relation-to-others;
- Developing perceptual flexibility: Perceiving a being's journey through time and space as well as patterns;
- Learning to perceive depth and meaning: Understanding how the story of another entwines with other stories; and
- Using the imagination to extend our perception, empathize with other beings, and envision new possibilities.

Over the course of six weeks, students were expected to engage in the meditative practices taught in the orientation session at least five times for at least half an hour each session. While students were invited to use all the practices, greater emphasis was placed on intersubjective meditation. Since, Toronto has many parks—many located in ravines and accessible by public transit—most students engaged in their practices in urban settings, albeit some did so on weekend trips out of town. Many students chose to spend more than half an hour per session or to engage in additional sessions. Students kept a journal to reflect on their experience and were encouraged to include photos, drawings, or natural objects.

After receiving ethics approval from the University of Toronto and after students had completed the course, I requested permission from students to analyze their journals and reflection papers. In total, 34 students from two different academic years granted me permission, the large majority (28) being women. While formal demographic data was not collected, most participants were in their early 20s and were reflective of the University of Toronto's cultural diversity

Experiences of Reorienting Connections

The journals and reflection papers were analyzed using a qualitative methodology informed by an organic approach which integrates thematic narrative, phenomenological and relational approaches to inquiry (Anderson & Braud, 2011). I then employed Sewall's (1995, 1999) dimensions of ecological perception to group selected reflections—not to impose a theory upon a diverse set of experiences—but rather to organize these in a coherent manner which might illuminate how reorienting connections are experienced in practice.

Learning to Attend: Connecting with Other Beings

In the orientation session, I suggested that it could be helpful to begin by taking time to still the mind and open the senses. At first, many students found this difficult—often noting problems with concentration or disconnecting from technology. Mary,[1] for example, noted that simply

[1] All names used here are pseudonyms.

paying attention in nature was a novel experience—normally she would be listening to music or talking to another person.

Over time, most students found that their ability to practice simple awareness of their surroundings improved and that they were able to enter more fully into mindfulness. Irene, for example, notes that "Concentrating on the present moment, I extended my attention to the sensations of the grass and wind against my body; the sounds of leaves rustling and birds calling; and the smells of moist earth and wood. I then slowly paced around imagining the sources and interactivity of the sensations I perceived."

When practicing mindfulness, participants often began to notice one particular being. Mary first observed ants climbing through the grass and went on to imagine "the world from the ant's perspective." Jonathan, after listening to the sounds around him and feeling the warmth of the sun, opened his eyes to see a hawk flying high above: "The entire time I watched it, it maybe flapped its wings a handful of times but somehow stayed high up in the air, using the wind in combination with its open wings to glide." Reading his journal, I felt drawn into the sky as he watches the hawk circling, hunting for prey.

Matthew heard a "choir of crickets" and began to pay attention to their singing, trying "to listen to different crickets individually and then collectively." Each had "a unique chirp" with different tempos, "but together they combined into a melodic tune." Then he noticed the breeze in the trees and how that sound blended with the cricket song. He watched "the wind interact with each of the trees as it blew through, knocking leaves off on its way and stirring up leaves that had been laid to rest on the forest floor" and finishes his reflection noting: "The forest felt so much more alive today. I'm not sure if it was the breeze, the sun, the leaves, or a combination, but whatever it was made me feel much more connected to nature. I sat there taking it in, like a patron at a play."

Anna and Connie both decided to try meditation at night, opening themselves to new ways of perceiving. Anna notes, "My senses were heightened as they compensated for the lack of sight. I heard the shuffling of nocturnal creatures and smelt the dampness of the earth." Connie visited a tree she had known since childhood and recalls seeing this tree "through the eyes of my younger self." She approached the tree, leaves, and acorns crunching underfoot, and hugged it, feeling the dampness and the scratchy texture of the bark. "Through my skin, I imagine the hundred-year-old cells within the trunk, the core *soul* of this tree.

I wonder what it has seen over the years?" She smelled the tree and pondered the many creatures inhabiting its boughs and felt a deep sense of friendship with it as she stared through its branches to the stars above (Fig. 16.1).

Amelia took a walk in a local park and decided to veer off onto a nearly hidden path. She found a secluded spot and began her meditation, sitting in silence as she closed her eyes and focused on her breathing. "When I opened my eyes a very strange sensation came over me—that I was

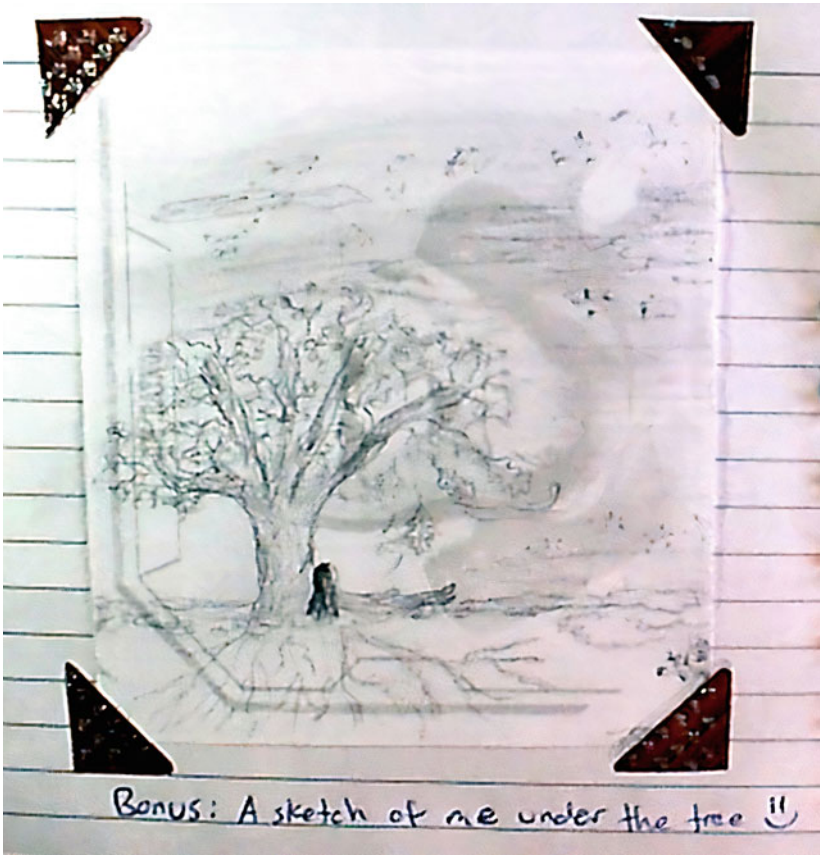

Fig. 16.1 Connie's Meditation Journal

invisible." After several minutes passed, "My hypothesis was confirmed. Squirrels and birds began to scurry and hop past me as if I was not there, or rather that I was there but was a natural part of their home backdrop." While being silent, still, and aware, she felt that she had been accepted by the animals and this makes her feel at one with the woods. Awareness and stillness bear fruit in a deep sense of connection with other beings.

Perceiving Relationships and Intersubjectivity

For several students, the elemental breaths exercise served as a gateway into an experience of interconnection and communion with the more-than-human world. Jacob, for example, remarked, "My mind has been broadened through the inhalation and exhalation of the air, which intimately connects my body with the natural world." Meditation on the four elements—earth, water, fire, and air—reminded him how "humans are inseparable from nature." Lily found that the breathing exercise served as "a portal to peace," enabling her to open her senses and "realize that … I am made up of stardust that is billions of years old" and that breathing itself connects her with living beings through time and space, helping her "build a sacred bond with the non-human world."

Engaging in intersubjective meditation, Elizabeth noted that initially she was unable to approach another organism without attaching a name and preconceptions to it. An important shift came when she was able to perceive a being in-relation-to-others. "Just as the tree provides a place for a bird to build its nest, it provides those on the ground with shade, and its entire ecosystem with life-supporting oxygen." Lily observed a bee pollinating a flower and receiving nectar in return. She noted that, together, they live in a relationship of mutually beneficial reciprocity and this filled her with a sense of Earth as an interconnected, living community. After watching a beetle on a piece of wood, Jack came to see the truth expressed by Abram (2014, p. viii) who writes that when we perceive "the biosphere in this manner, not as an inert collection of passive and determinate objects but as a community of animate material agencies …, we straightaway begin to feel ourselves as members of this community."

Kimberley wrote, "I learned that the landscape developed its own stories and if I paid close enough attention, I would be able to hear those stories" and that even the rocks themselves could speak. Indeed, Jonathan experienced just that at Furnace Falls as he contemplated the rock beneath

him and pondered its history through time as well as the "why" of being a rock (Fig. 16.2).

At the same time, the ecological meditations may also lead to an awareness of *disconnection* from the more-than-human world—something that may more closely resemble a disorienting dilemma. Erica wrote that, as an environmental studies student, she had thought that she was very connected to the natural world, "but these practices helped me to feel I am not as connected as I thought." Similarly, Miriam wrote that, as she engaged in the practices, she realized that her relationship with the

Fig. 16.2 Jonathan's Meditation Journal

more-than-human world had previously been quite superficial and that she needed, not only to study nature in a more theoretical or detached manner, but also to immerse herself in it and experience it.

Developing Perceptual Flexibility Across Time and Space

Jonathan's experience of the rock at Furnace Falls and Amelia's contemplation of the life of her beloved tree both reveal how ecological meditations can lead to a deeper sense of time and story, as does the observation of Lily that the complex elements in our bodies that were born in a supernova explosion mean that we are literally, living and breathing stardust.

Similarly, Matthew observed a single, yellow leaf in a dry riverbed, and he began to ponder "the fate of this leaf," imagining "it decomposing, transforming into a series of smaller pieces until the pieces were too small to be seen", and how these would become food for other organisms. "I thought how altruistic and beautiful this cycle was: death provides life. It clicked in at this moment that we all were really part of a dynamic and intricate web of life." Likewise, Pamela observed an "erratic" boulder deposited by a long-past ice age and was transported back to a time when the world was covered by a thick sheet of ice and long-lost creatures inhabited the Earth.

Other journeys through time were more personal, connecting back to childhood experiences. Gazing up at the stars during her night-time meditation, Anna recalled stargazing with her father as a child. Amelia remembered visiting the tree as her childhood self, while Erica—on seeing a frog—recollects how she would catch frogs as a child and reflected, "It makes me wonder if my childhood was a time that I was more connected with nature. Or am I still connected with nature, but just don't have the time to realize it?".

Other students learned new ways of perceiving by engaging in the practices. Miriam, for example, wrote that, instead of merely trying to observe squirrels, she endeavored to connect with them and listen to what they might be trying to teach her. In so doing, she realized the difference between coming to know something by confronting or dissecting it and knowing something from the inside-out, by empathically attempting to become (or identify with) the other being.

In her meditation practice, Irene began to notice "patterns and connections …, such as the reciprocal calls among birds, and the freezing

response of squirrels to sudden noises" and that "perceiving the world as fragmented objects suppresses their underlying connectivity and precludes humans from experiencing nature as an interdependent community of beings."

Perceiving Depth and Meaning: An Animate World

In a brief reading that I shared with students, Abram (2005, p. 189) speaks of how, "in its oldest form, prayer consists simply in speaking *to* the world" and asks whether we can "also speak to these powers, and listen for their replies." In practicing intersubjective meditation, I invited students to not only seek to learn from other beings, but also to approach them as potential teachers who can communicate and share wisdom with us.

Connie seems to have experienced this while watching a seagull swimming in Lake Ontario. "I thought about emotional language. I listened carefully to the noises the seagull was making. I thought I could sense some distress in his calls." She goes on to comment that, even though we may speak different languages, we can understand other beings insofar as we share the same emotions.

Priscilla experienced communication from a shrub she encounters alone on a barren, muddy patch of ground. In watching it struggle with shriveled, bug-eaten leaves, she felt that it was struggling hard in harsh conditions and that it had somehow succeeded where no other plant has survived. "I think it was trying to communicate that you can continue to grow despite harsh conditions if you keep trying. It also teaches me to persevere at anything I may attempt."

Jacob reflected that these practices have opened him to experience a relationship between humans and nature that is more active and reciprocal than he had anticipated: "I watch the leaves 'waving' to each other; I hear the trees 'whispering.'" Jacob then noted that his interactions with the more-than-human world are meaningful and that he is never truly alone in nature. Moreover, "the relationship is animated because the interaction between humans and nature is dynamic and continuous."

Imagination, Empathy, and Creativity

As Sewall (1995) notes, imagination may play a key role in extending our perception, both to encompass wider time scales and by imagining,

for example, that other beings—even trees and stones—are watching us. Perhaps more importantly, imagination enables us to put ourselves into the place of another, very different being. Even if we may not be able to fully experience the sensations or perceptions of other living entities, the very attempt to imagine these may cultivate empathy and compassion for others. Indeed, our brains contain "mirror neurons" that fire in sympathy with the feelings we perceive or imagine in others (Lakoff & Johnson, 1999).

While sitting on the grass, Gwen imagined the diverse species living there, even though she could not perceive them directly: "My senses were extended, and all barriers were shattered. I felt united with mother nature." Mary attempted to see "the world from an ant's perspective" as she watched them climbing on blades of grass. As Connie meditated in the tree, she imagined "the hundred-year-old cells within the trunk" and sensed the tree's soul. Irene contemplated the fate of two acorns—one that is eaten by a squirrel and another that grows into an oak tree—to ponder whether each had served their purpose, even if in very different ways. The use of imagination is also evident in Kimberley hearing stories in the landscape and Jonathon journeying with a rock through time (Fig. 16.3).

Transformations and Benefits

Analyzing the journals and reflections of the students, it is evident that many were able to experience a more ecological form of perceiving the world, similar to what Sewall (1995, 1999) envisions when she writes of the skill of ecological perception. It is more difficult, particularly in this time-limited study, to evaluate whether deeper, more lasting transformations resulted; yet many students did report changes in their perspective and worldview as a result of engaging in the ecological practices.

Mary, for example, spoke of a shift from a more abstract or theoretical ecological worldview to one that she actually experienced through "direct contact with nature" that enabled her "senses to become more attuned" while Petra spoke of "visceral learning that cannot be replicated in the classroom."

Phoebe observed that the ecological practices shifted her perspectives because she needed "to routinely seek a relationship with nature that did not revolve" around her own immediate desires or goals; she began to perceive herself as "less of an isolated agent" and more as "a part of an

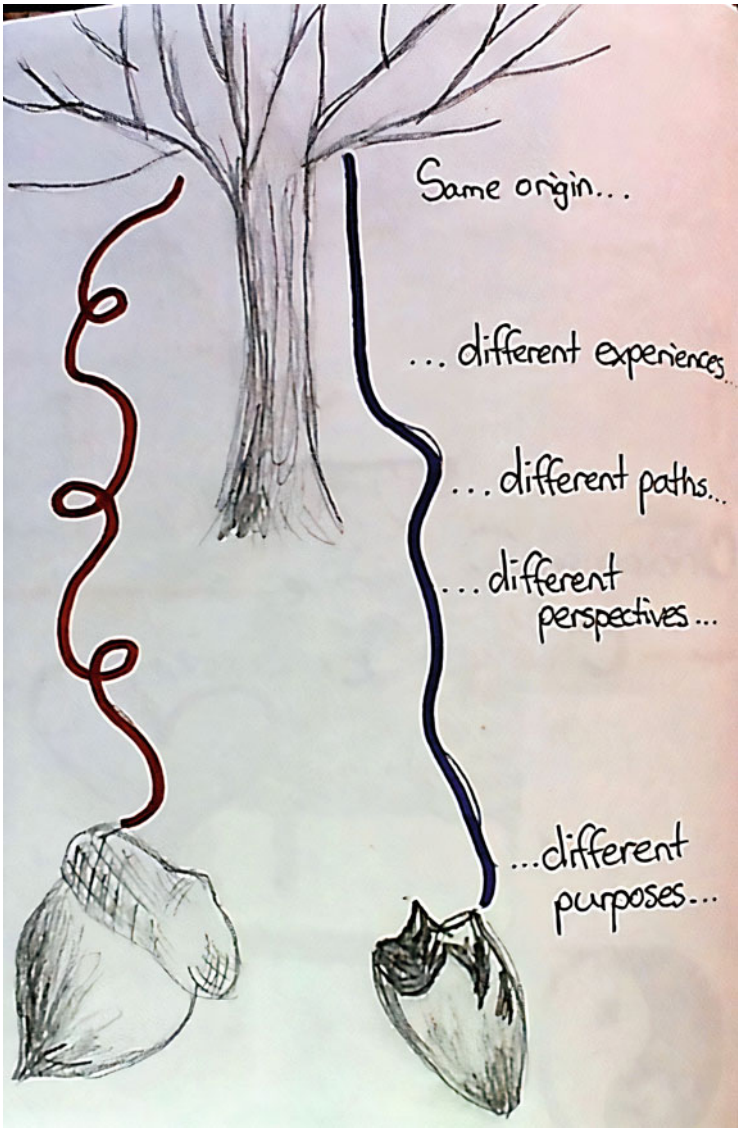

Fig. 16.3 Irene's Meditation Journal

interconnected system of cyclical processes" that were less goal oriented. Previously, her concern for ecological issues had been based primarily on analysis, but now it had extended "to include a more emotional attachment" and feelings of growing interrelatedness. Noreen seems to have experienced something similar, which she articulates by quoting Fox (1984, p. 196), musing that perhaps "by subtracting your own self-centred and self-serving thoughts from the world, you come to realize that the other is none other than yourself." Debbie likewise writes that her sense of self had broadened, enabling her to experience her "relation with the universe."

Alicia began to see "the world in a very new light" as she "became more aware of the inherent beauty within it, how we connect to it and how we depend on it." Priscilla noticed a change in herself when, during walking meditation, a bug crawled onto her arm: "Normally I would have flicked it off of me, but it didn't bother me anymore. I let it crawl around until it decided to be on its way and flew off." Lily noted, "I saw a friend in the animals, the wisdom handed down to me by my departed grandparents in the trees, and [a] home in the forest." Through her practices, she began to experience "the land as a living community rather than property" where even the abiotic elements are animate and deserve respect. Moreover, she began to experience that "the Earth itself as a whole indeed has a soul, the anima mundi."

Amy noted, "my ecological worldview indeed changed" and that "being with natural living things and the beauty of it makes me feel like I'm a part of this life." She reflected that her process of transformation affirms Sewall's observation that "our worldview is constituted by our predominant experience" (1999, p. 244). Interacting with the more-than-human world on a regular basis—rather than simply with human-made artifacts—changed the focus of her perception and that, in turn, changed the way she experienced the world to one as a communion of subjects with whom she is in relationship. Gwen similarly observed, "When we change the way we perceive the world around us, we simultaneously change the way we react to this world." The following sections describe in more depth the nature of some of the changes and shifts experienced.

Communication, Reciprocity, and Animacy

A first shift that some students reported was toward a sense of deep connectivity in which the world is experienced as a living—even sentient—communion of beings. This shift is also marked by a sense of reciprocity where other beings communicate with, support, and provide guidance to humans. Noreen learned that "the trees and wind are excellent listeners and always seem to know what I'm thinking, as they know when a sympathetic rustle is appropriate." Ariana stared at a tree and began to feel it revealing itself to her: "It was a windy day so the branches and leaves were constantly moving, as though they were dancing to the crisping sounds of the leaves." Looking at the other trees, she realized how different they were from each other and perceives that each has its own story, just as each human person does.

Connie experienced a reciprocal relationship with the wind as she breathes, blowing through her with each inhalation and then returning with each exhalation: "A relationship of sharing: Maybe wind is really just everyone and everything breathing in and out together. Touching everything with our own winds." Later, she wrote that her long familiarity with many of the places she visited helped reinforce a sense of connectivity to the point where she came "to see their animate qualities" and experienced a kind of "reciprocal dialogue" with them.

Shifts in Spirituality

Several students also noted a change in how they experienced their spirituality. Karen, for example, observed that as a woman of faith, she often converses with God in nature and feels a "natural instinct to praise the Creator." Yet, as she entered more deeply into the ecological practices, she found herself relating more directly to other-than-human beings: "I noticed myself talking directly to the wonders around me, asking questions such as 'how did you get here, what is your story, what have you seen?'" particularly "in the presence of an older entity, such as a tree or a boulder." Petra similarly remarked that she resonated with Abram's (2005, p. 189) idea of prayer being a way of "speaking to the world, rather than solely about the world" insofar as she felt "most attuned to the Earth's life forces" when outdoors "rather than in a church or a classroom." Judy, whose faith integrates elements of both Christianity and Islam, felt these practices reconnected her with experiences she had with

several First Nations communities, particularly the teaching to be mindful of "all my relations." Rather than marking a shift away from a belief in a Creator, these changes seemed to mark a new perception of the intrinsic value of all life—i.e., creation is to be appreciated and loved, not only because it is the work of the Creator, but because each being is a relative who has value in and of itself.

Love and Care

Alicia found herself falling "in love with the Earth," simply by interacting with other beings and by becoming more attentive to them. This, in turn, motivated her to "start making more choices in [her] life that would create positive change" both personally and "in the larger picture." Gwen similarly observed that the emotional connection she now feels with her surroundings motivates her to protect the Earth: "When some form of attachment is formed, future actions will be in compliance with this attachment." Because of this sense of interconnection, "we come to realize that triggering harm on other beings will only generate collective loss."

Overcoming Anxiety

Many students noted that the ecological practices helped them to overcome anxiety, improve mood, and find peace. Paul noted that the practices "functioned as a calming technique, while offering the chance to step away from the material world, away from cell phones, laptops, and televisions" and helping him gain a greater sense of focus in his life. Mo reflected that the practices helped him put problems in perspective and "gain a sense of calm understanding" because he now realized that he is "part of a bigger whole, that everyone has problems, and that in time they don't matter quite as much." Contemplating the life story of a tree, for example, helped him to see his own life from a broader and more inclusive perspective. Alicia found that the practices helped her to deal with devastating experiences in her life and "find out who I am and what I really want." Matthew discovered that he was able to free himself from anxiety and toxic feelings and increase his confidence in his future plans. Not only, then, did these practices help motivate caring actions, they also seem to have helped participants find a sense of focus and empowerment for moving forward in life.

Fostering Creativity

A final benefit of the ecological practices is reflected in the wide variety of photographs, drawings, collected leaves, and poetry included in the journals. For instance, Mary writes a poem:

> The wind is strong,
> So long-lasting and powerful.
> But its presence,
> Is an afterthought.
> The whipping, the lashing, the force,
> The terror and the strife.
> Feel the strength,
> The needs required,
> Nature is in us,
> We are one.

Anna shared how she is drawn to let her pen "just move without thinking of anything specific" (Fig. 16.4).

Connie notes the importance of creative expressions including "free-hand sketching, gathering of vibrant foliage, and even singing" which contributed to her overall enjoyment of the meditation experience. She noted that art amplifies the visceral quality of the practices which includes "physical contact with the mystifying touch of bark from different trees and the striking cold of stream water" (Fig. 16.5).

The role of Reflection: Journaling

While the practice of meditation tended to foster a more intuitive and emotional mode of learning, reflection and analysis also played a role, particularly through journaling. Irene wrote that creating a physical record of her experiences helped give "visible life to the connections" she developed with the more-than-human world while Karen wrote that journaling helped "amplify" her sense of connection. Kimberley noted that writing helped her "reflect and see what changes I could make to deepen my connection with nature the next time I went outdoors" while Petra found that writing helped her more clearly perceive a deepening in her meditation practice over time. Mary found that writing enabled her to make sense of her thoughts while Karen noted that journaling helped her find deeper meanings in her experiences.

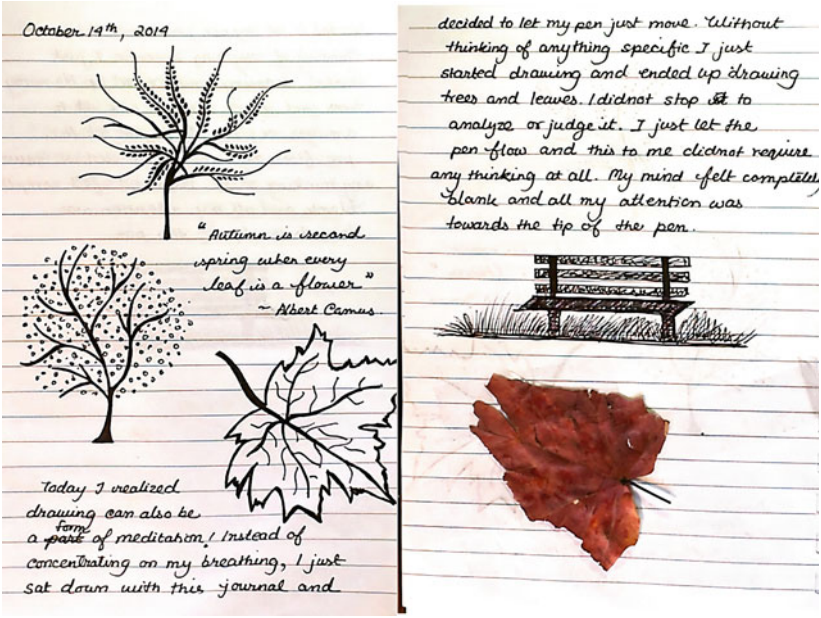

Fig. 16.4 Anna's Meditation Journal

While journaling was generally helpful, others found that the expectation of writing may have hindered them from entering fully into the meditative experience. Pamela, for example, noted: "Many times I struggled to translate my feelings, emotions, and thoughts onto paper" which in turn caused stress during meditation. "I had to nit-pick in my mind the most important things I was experiencing–which was distracting to the overall activity."

Shifting or Deepening?

While some students reported a significant transformation in their worldview and perceptions of the more-than-human world, others seem to have experienced instead a deepening of a worldview that they already had. Several observed that five sessions spent outdoors were a rather limited timeframe, although most noticed a deepening over that short time. As

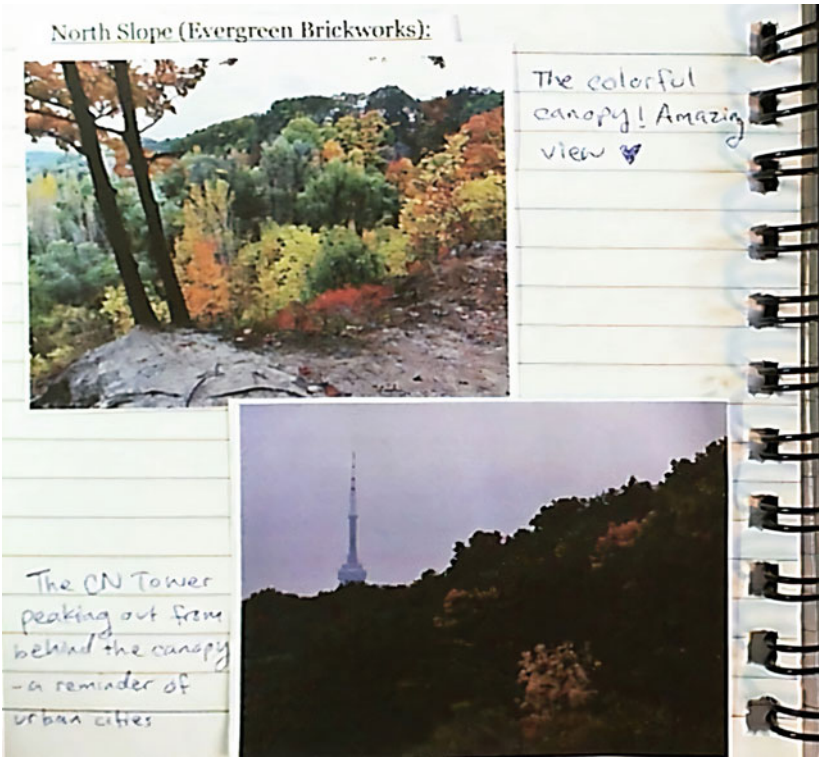

Fig. 16.5 Connie's Meditation Journal

Mo noted, "doing five practices did not have a dramatic effect. I definitely felt more connected to nature after doing the practices, but that feeling did not last long after I went back to my daily routine." To be truly effective, he noted, his practice would have to become part of his daily life.

Others, perhaps, felt a deeper change. Amy remarked that she indeed had experienced a transformation in her worldview and others—as we have seen—similarly speak of more long-lasting shifts. Several were motivated to continue these practices after the course ended. Gwen, for example, remarks that "meditation has become a way of life" for her while Jack notes that engaging with the more-than-human world is like playing an instrument: "Eventually, you lose your ability to play if you do not

practice. I believe that we may lose our ability to appreciate nature if we do not spend time with it and reflect on it." This coincides with Sewall's (1999) assertion that, to change the neural ensembles that enable new perceptions to arise requires, not only attention, but ongoing practice.

Conclusion

O'Sullivan (2002, p. 1) defines transformative learning as "a deep, structural shift in the basic premises of thought, feelings, and actions" that "dramatically and irreversibly alters our way of being in the world." Since this study was time-limited, the duration and depth of the transformations the students experienced is difficult to ascertain. Yet, it seems apparent that many experienced a taste of ecological consciousness and a "wider sense of connection with all the powers of the world" that fostered new perceptual abilities (O'Sullivan & Taylor, 2004, p. 3).

For most, this process of experiencing reorienting connections seems to have been gradual, marked by a myriad of subtle, and at times, more marked shifts rather than by dramatic epiphanies. At least some of the transformations described, however, seem to have been both significant and potentially long-lasting. Drawing on systems theory, Hathaway (2018) observes that transformative learning is often marked by a kind of punctuated equilibrium in which many smaller changes eventually reach a tipping point, leading to a more dramatic shift in how we perceive and act. Often, it is only in looking back over life events that their true significance and impact becomes apparent.

Almost all the shifts reported by the students—with the possible exception of the awareness of disconnection—seem to differ from Mezirow's classic description of disorienting dilemmas. Rather than feelings of shame, fear, anger, or guilt, the shifts were accompanied by self-transcendent emotions like love, compassion, wonder, mutuality, appreciation for beauty, and a sense of connection or an expanded self.

There are good reasons to hope that these shifts in perception and consciousness may, over time, also bear fruit in concrete action for sustainability. Several large-scale studies over the past two decades indicate that an emotional sense of connectedness to the more-than-human world is associated with pro-ecological behaviors such as resisting consumerism, participating in environmental organizations, using public transit, and buying sustainably produced foods (Mayer & Frantz, 2004; Nisbet, et al., 2009). One of the students who engaged in the ecological practices,

Phoebe, affirms the insight that an affective sense of connection may be key to reorienting transformations, noting that logic alone seems insufficient to convince people to adopt sustainable lifestyles or take action: "Perhaps the fostering of a more emotional … relationship with nature is the vital change needed in order to motivate more meaningful change in behavior."

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