# ALL (EN)TANGLED UP:
# SCHOOL GARDENS RESEARCH IN CONVERSATION WITH OUR HUMAN AND NON-HUMAN COMPANIONS

by

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## ABSTRACT

This thesis is about listening to the "unacknowledged 'stories' present in all objects that surround us" (Knoespel, 1991, p. 109). It is about listening to the voices of the garden – the academics, children, teachers, parents – and "Hey! Don't forget about rocks!" (as well as other non-human and more-than-human beings). It is about embracing these voices and the conversations that might crop up between them, however discomforting, encouraging, self-questioning, and world-collapsing they may be.

Through cacophonic back-and-forths between these voices, I come across an *accidental method/ology* (Cole, 2017) for researching school gardens. One that embraces, that becomes through, accidental stumblings and stutterings, unexpected encounters with odd characters, tinkering here and playing there. And in being so, it becomes a way of rejecting academic preferences for anthropocentric and Eurowestern understandings (Martusewicz, Edmunson & Lupinacci, 2011). A methodology that is concerned not with how we as humans can benefit from the garden but how we are part of it, inextricably – if not accidentally – entangled within a messy "web of community obligations" (Apffel-Marglin, 2011, p. 37). A methodology that honours gardening – and working in a school garden – as co-journeying alongside our human, non-human, and more-than-human companions. What might such a co-journeying look, smell, taste, feel, sound like? What knowledges might it uncover? What conversations might we stumble upon?

I present here a conceptual work; a "narrative experiment" (Gough, 2010). The characters are awkward and contentious – informed by narrative theory, agential realism, Indigenous knowledge systems, ecocriticism, poststructuralism, posthumanism. The gathering place is the garden, both the physical garden that we tend to with our hands and hearts and the garden within,

our “ecology of mind” (Bateson, 1987), wherein we sow and harvest our fruits of knowledge. The medium is a story, a children’s story. A fun one, an imaginative one. And the plot is an exciting co-journeying, from the well-mapped above-ground garden into the unfamiliar below-ground garden. And with such a shift in positioning comes a shift in optics, to reconfigure those that we research not as researched-objects but as our co-researchers.

## LAY ABSTRACT

This thesis intends to move school gardens beyond being instruments serving a prescribed (and problematic) curriculum and invite into them – and into conversation – the diverse communities of humans and non-humans that partake in these garden spaces. I set out on a journey in search of a different method/ology that could do so. And I stumbled upon one, by accident, somewhere in the midst of odd and strange-to-the-garden theories. An Accidental Method/ology, filled with accidental encounters with unfamiliar characters, accidental experimentations, accidental conversations, and accidentally finding yourself tumbling down a rabbit hole towards strange underground world(s) like I did.

## PREFACE

This thesis is original, unpublished, and independent work by author, Yu Chyi David Liou

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## ACKNOWLEDGEMENTS

Welcome ladies and gentlemen. Welcome children, teachers, parents, and all. Welcome worms and ladybugs, crows and coyotes. Welcome trees and shrubs and plants and flowers and you gentle folks plugged into the wood wide web (McEwen & Farrell, 2016). Welcome to this presentation of *All (en)Tangled Up*. Now as you find your way to this patch of grass upon which you will seat yourself and embrace this sunshine that we are so fortunate to stumble upon, I would like to say a few words of acknowledgement, acknowledging all those – the human and the non-human and the more-than-human – that brought this presentation to life.

The wonderings and wanderings of this thesis took and take place on the occupied, unceded, and traditional, and ancestral lands of the Squamish, Musqueam, and Tsleil-Waututh First Nations. I am grateful that I am able to take inspiration from the landscapes and lands in which they have inhabited for generations upon generations since time immemorial, the rivers and streams, the forests and ferns, the mountain tops that greet me every morning on my way to the university. I am grateful for the teachings that they have imbued upon this landscape, and the teachings that this landscape has imbued upon them.

This work would not have been possible without the support of Drs. Pat O'Riley and Peter Cole. It is they – along with their characters of Coyote and Raven – who challenged me to think a bit differently and act a bit strangely. And it is their passion and commitment to ecojustice, to Indigeneity, to a more humane and livable world(s) for all, that has kept my own words flowing onto the page. I would like to as well thank all my fellow colleagues in the University of British Columbia Faculty of Education's Ecojustice and Sustainability Cohort. Thank you for the friendships and conversations, and the time spent in circles on a patch of sunny lawn.

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## PROLOGUE: GATHERING PROPS; SETTING THE STAGE; FINDING MY WORDS

Welcome to this presentation of *All (en)Tangled Up*. This thesis – oh who am I kidding, this story – is inspired by my passion of being in the garden. School or not. It is inspired by the joys of play, of nurturing minds, bodies, and spirits with the worlds around, and of nurturing these worlds in return (Apffel-Marglin, 1998). It is inspired by the prospect of having fun, making a mess, getting into trouble, getting stuck, getting lost, and doing it over and over again. But perhaps more than anything else, it is inspired by a frustration, a frustration that research on school gardens and garden-based learning (GBL) rarely contains any of the above. That the so-called academic body of work on school gardens takes the fun, play, and joy right out of school gardens.

How so disappointing! That when I read the literature on GBL, I am greeted by the same bouts of boredom that greets Laurel Richardson (2008) in her academic perusings: "countless number of texts had I abandoned half read, half scanned. I would order a new book with great anticipation – the topic was one I was interested in, the author was someone I wanted to read – only to find the text boring" (p. 474). Thorp (2006) writes about the school garden as a space that does not look, feel, smell, sound, and taste like school. My thought here is this. Dare we entangle ourselves in research on school gardens that does not look, feel, smell, sound, and taste like research?

Dare we think of "we" as an inclusive term, consisting of a whole host of co-journeyers and companions? From scholars and researchers of the academic variety to the students and teachers and student teachers that brave chilly fall mornings out in the garden beds? From humans who speak humanly languages and humanly grammar and behaviours to non-humans and more-than-humans with whom conversations might be difficult but are nevertheless

necessary? Dare we think of research as an invitation, a welcoming, a gathering, instead of an act of closure? As "lines of flight," embracing multiplicities, ruptures, and newfound connections (Deleuze in Reynolds & Webber, 2004, p. 2)?

Dare we imagine school garden research to be as colourful and as alive, as fun and as playful, as the spaces that researchers are attempting to capture? As temperamental and as unpredictable as the students whose learning we intend to inform by the research? Dare we imagine school garden research that is not "narcissistic and wholly self-absorbed at worst...not making a difference to anything but the author's career" (Richardson, 2008, p. 474)? Who says research has to be this way? Who says academia has to be this way? Who is this "who" anyway? Forget academics and their big academic words. What about the children and the parents, the worms, the bees, the ladybugs, the woodlouse, the microbes? And hey! "Don't forget about rocks!" (Cole, 2016). What might a different approach to school garden research look, taste, smell, feel, and sound like? What knowledges might it uncover? Voices made audible? What joys and wonders might we stumble upon?

Pardon me, my non-conformity, my disregard for rules, my disrespect of ivory towers, my excessive use of first-person pronouns. But this is where I would like to interrupt. The objective of my thesis is to tell a story about school gardens; and in this story, to stumble upon a different methodology, an *accidental methodology* (Cole, 2017), for researching school gardens and GBL. This is a methodology that honours gardening as co-journeying with our human, non-human, and more-than-human companions (Apffel-Marglin, 1998, 2011). One that rejects the narrow-minded mainstream Eurowestern parameters that have been set out for who, what, why, where, and how research can occur (Martusewicz, Edmunson & Lupinacci, 2011). A research that cares about those who have been so long ignored, forgotten, marginalized, silenced,

controlled, and policed in conventional academic texts. Research that prides itself on modest conversations and not arrogant proclamations. Playful and playfully subversive, and above all, not boring. I borrow from the realms of narrative theory, posthumanism, agential realism, and children's literature. Don't worry, this will make more sense if you decide to read on. Promise.

**Asking a question that I can't answer, that can't be answered, that has no answers**

Once upon a time I stood in front of a class of children, explaining to the wee ones our annoyance with the cutworm. Now I stand cross-eyed in the messiness that is academic readings, writings, and texts. What happened? How did I find myself stumbling and falling down this rabbit hole? If I were to hazard a guess, I would say it had something to do with a question that nonchalantly crawled into my head and subsequently refused to leave. A question that went something like this: whom and what do our school gardens serve? A simple few words strung together to form a not-so-simple question, one that demands a complex, twisted, and unmanageable response – if there is an appropriate and/or definitive response, at all, that is.

## INTERMISSION

Well now I've done it. As Thomas King (2003) writes, a story told cannot be untold; questions asked cannot be unasked. Whom and what does a school gardens serve? Now I need some time to consider this question that I've put on this page before me, staring back at me, prodding me, provoking me. Perhaps I should take a break, visit a garden, pace around the beds, and collect my thoughts. Or perhaps I should let others do the talking for a change, it's been quite a bit of me, and I would hate to use up all the words and all the room for words to appear.

Stage lights fade.

Curtains drawn.

Elsewhere, a spotlight shines.

Curtains are pulled open.

The following text is projected onto the screen behind the stage:

"I guess you think you know this story.
You don't. The real one's much more gory.
The phoney one, the one you know,
Was cooked up years and years ago,
And made to sound all soft and sappy
just to keep the children happy" (Dahl, 1982, p. 1).

# ALL (EN)TANGLED UP

## Act I

### 1. pacing

*A shovel into the Earth, and a shovel out of the Earth. What does each shovelful bring out? What does each shovelful uncover? What does each shovelful harm, damage, kill? Stories. Many, many, stories. And here I read to you one of them, only one, one amongst many. One that I made up in my own head, featuring the crazy characters that wandered in and out of it. Pen to paper, scribbles that I haphazardly mould into words and into story.*

How did I get here? It's late summer, the air is cooler now. A relief because I've forgotten my sunscreen today. I'm standing amidst the carefully and tirelessly manicured beds of the community garden. The garden is boxed in by streets – side streets, busy streets, a street lined with a warehouse for produce. BEEP. BEEP. BEEP. You hear the trucks as they back out of their loading bays. The individual beds are boxed in by 2x4s.

How did I get here? I biked here. You see? My bike is right over there, leaned up against the esplaniered apple trees. One tree, many varieties. Jubilee, Orange Pippin, Topaz, Honeycrisp, Salish. Crabapples. Or at least that's what the small white tags on the branches tell me. My apple literacy is severely unsatisfactory. If I was tasked with naming them, they'd have lame names: ripe, unripe, green, red, reddish, red with stripes, orange, yellow, and so on.

Maybe I should move my bike. I don't want to harm these trees, get in the way of the child who may be so inclined to inspect the apples, or trip up the other actors and characters on set. I move my bike to the steel bike rack on the other side of the garden path and lock it with my U-Lock. Now, back to my question. How did I get here? I biked here. But where was I before I biked here? What led me to biking here? I think it had something to do with a question that crept

into my head and subsequently refused to leave. Pacing helps me think. I start pacing, marking the woodchip-lined pathways with my footprints. Step, step, step. Think, think, think. Step, step, step.

## 2. thinking

I wrack my brain. Pace a little harder, think a little harder. I think back to how this whole journey started. My memory only goes so far though. Back when I was a wee one, no taller than the lowest branches on the apple tree, before I knew what this Canada thing was. My parents would take us – my brother and me – to my grandparents' house in the Taiwan countryside. A large brick building that my grandpa built himself. Out front, there was a large garden. And in the middle of the garden was a lychee tree. Each May, buds all along the branches would become fruit, the fruits would ripen and we would call it food. Crack the shell, take a bite, and make a mess. The sugary juices would dribble from mouth to chin and all over my shirt and pants. In the evenings, I would entertain myself with the plants and insects while the adults sipped tea underneath the tree. Swatting at mosquitoes, listening to the cicadas' droning chirp.

But my parents lived in the city and I grew up in the city. No garden, no lychee tree, the cicadas drowned out by the screeching of cars and the shopkeepers hawking their goods from early morning until late at night. We lived fifteen storeys above the ground. Up there, even the air was different, cycled and recycled through our air conditioner.

## 3. wondering

And then came a grand twist of events. We boarded a plane, my whole family, and we came to Canada. Vancouver, British Columbia. Well, not quite. Delta to be exact, if you're wondering.

Forty kilometers southeast of Vancouver, 49.1147 degrees North and 122.8967 degrees West. We moved into a modest house in the suburbs. Next to the watershed, a place to stroll, bike, and prod and poke ferns. When you're in there, you can't see the sky. The towering trees hide the world beyond the forest from sight. We were a short drive to the Boundary Bay Delta, a patchwork of farmlands, bog land, and the smell of manure. On fair days, we would walk along the dyke.

Our house wasn't fifteen stories into the air anymore, and we had a garden. I remember the garden fondly. Annuals and perennials – my favourite was the hydrangeas. A monstrosity of a shrub that grew right outside my bedroom window. When it rained, the beads would collect at the tips of the large leaves and then drip, drip, drip, drip, drip. When we played, we would hide in them, our own secret cabin, our secret garden within the garden, away from all forms of adult life. And when the season was right, the stems would spew bright pink and blue fireworks up into the sky. There was also a maple tree and a cherry (blossom) tree. Beautiful when they bloomed, a chore when you had to rake up their fallen leaves. There were lilies, my dad's favourite. And roses. And every spring, we would go to the flea market and return with flats upon flats of flowers to transplant. I loved the garden, I loved having a garden, even if there wasn't a lychee tree in the middle of it.

## 4. weeding

Weeding

Pulling

Plucking

Tearing

Tugging

Growing and growing and growing and growing.

I also remember the garden for its weeds. You'd pull them out and they'd come right back in. Whether you attempted to rid the garden of them by brute force or by chemicals, the weeds would always thwart your attempts. Dandelions, morning glory, horsetail, and thistle. In winter they would take a nap. In spring they would spring. And in summer I would be on my hands and knees prying them from their soily homes. "Remember to pull them out by their roots!" my mom would always remind me. Only sometimes would I listen. "That way, they won't come back!" she would say.

But they always did. I procured buckets upon buckets of uprooted weeds, year after year. My fingertips would glow green and my fingernails would be stained black. I would track mud all over the house to my mother's discontent. But they would always come roaring back. Hello! Hello! They seemed to say to each other. Welcome to the garden, there's plenty of space so come on in and crowd around!

*A shovel into the Earth, and a shovel out of the Earth. What does each shovelful bring out? What does each shovelful uncover? What does each shovelful harm, damage, kill? Dirt and weeds. Dirt. Brown dirt. Bland, inexhaustible dirt. Dirt that stains your hands, your pantlegs, and that brand new polo shirt you're wearing. Laundry again? You say, with a frown. Weeds. Green weeds, yellow weeds, leafy weeds, woody weeds. They must go. All of them. But they don't listen, they won't leave. Perhaps if we ask them nicely?*

## 5. schooling

I spent many years in that house and many years in that garden. Until I went to university in the city. Vancouver, British Columbia. 49.2689 degrees North and 123.2572 degrees West. No time for the garden, I had to learn how to be an adult and do adult things, like choose a career path and stick with it. But I still liked gardens (especially if they came with a lychee tree) so I thought, why not learn more about gardens? They didn't have a gardening degree so I picked the closest thing: farming. Isn't that more or less a very, very, massive, gigantic garden?

Here is what I learned:

- Farms make plants that human call food
- We need food (to live)
- We need farms
- Farming is hard work
- Farming does not make one rich (or at least in most cases, with "one" being the farmer)
- There are many ways to farm
- There are many types of farms
- Some farms are good
- Other farms are bad
- Some farms use "traditional" farming technologies
- Some farms use "conventional" farming technologies
- Some farms use "organic" farming technologies
- Some farms are "local"
- (But would that mean that some farms are "global"? Maybe)
- Some farms use new and unfamiliar technologies

- Sometimes, people are wary of these new and unfamiliar technologies
- It's all very complicated you see
- I also learned many other things

I learned about farming, about biology and chemistry, physics and mathematics. I learned all about the soil, salinity and acidity and how it smells so good. I learned all about chemical reactions and equations; nitrogen fixing and photosynthesis. They were a bunch of letters dancing around with one another on a sheet of lined paper. I learned about plants and insects, pollinators and pests. I learned about sustainability: local food, organic food, slow food, good food, bad-for-you-food. I learned about nutrition and all its controversies and conspiracies. I even learned about economics and politics: corporate greed, capitalism; zoning laws and trade policy.

*A shovel into the Earth and a shovel out of the Earth. What does each shovelful bring out? Uncover? Harm, damage, kill? Dirt. A resource. Harnessed to grow, to exploit, to deplete, to profit. To be extracted, distributed, and sold to the highest bidder. Bland, exhaustible, necessary. Good thing we came up with all these chemicals to put in it, to revive it, temporarily.*

## 6. working

That can't be all can it? There must be more to the story than dirt, or even better, an entirely different story.

*A shovel into the Earth and a shovel out of the Earth. What does each shovelful bring out? Uncover? Harm, damage, kill? Soil. The substrate for life. Sowed, ploughed, and harvested. A careful and precarious dance of chemicals and minerals. Each handful a microcosm of life on this planet, life that sustains other life, life that sustains all life.*

I learned a lot and I sat a lot. I sat a lot in the classroom listening to the professor talk, taking notes. I sat a lot at home, in front of my desk, reviewing notes and writing assignments. I sat a lot on my bicycle, riding to and from the university. I sat so much that my butt became sore. So then I thought, maybe I shouldn't sit so much? I picked my butt off the plastic chairs and dragged it to the farm. First the university farm. It was fall and it was squash season, beautiful colours peering up from beneath large green leaves, flirting to be harvested. The late-season potatoes as well, embroiled in this courting dance. A shovel into the Earth and a shovel out of the Earth. What do you uncover? Potatoes.

And then I worked in a greenhouse, one that grew the sweetest, most aromatic, and most organic and local tomatoes I've ever come across. Dozens of varieties, each with a proud and bold personality to share with the world. They were explosions of flavour that far surpassed that of your usual grocery-store variety. The days would be spent making my way through the dense forest of vines, pushing them aside as you entered and then THWAP, they would swing back and whip you on your behind as you passed through.

*A shovel into the Earth and a shovel out of the Earth. What does each shovelful bring out? Uncover? Harm, damage, kill? Soil. I've heard that some farmers taste their soil. They put it into their mouths and swish it around as though they're at a wine tasting. They chew and munch and crunch (but do they swallow?). When they do this, they say, they can tell if the soil is good soil or bad soil. If it will grow good plants or bad plants. Or they might taste what is growing in the soil. Pick a leaf off the carrot greens and chew on it. Hmm, I'm expecting some sweet and plump carrots they might say. I haven't tried it out yet, but maybe one of these days I will.*

I liked farming. I liked spending time in the fields. I liked the awkward tan lines and the utter exhaustion that greets you at the end of each day's work. I liked the grit in your shoes and

the occasional face-full of fish fertilizer when you accidentally knock loose an irrigation hose. I liked watching the lives of plants, from seed to flower to fruit to marinara sauce that I smell, eat, and stomach. I liked the closeness, with the land, the soil, and the critters. I liked the thought of working in an uncontrollable environment, pleading with the oftentimes unagreeable and temperamental weather. I liked the farmer and all the knowledges they had. Gentle and modest, devoted to the necessary yet thankless project of feeding world(s) and nurturing plants (or maybe, maybe, the plants give thanks back, the birds, the pollinators, the moles and voles).

## 7. rethinking

I liked it, I liked it all. But I also had doubts. By the time the growing season was wrapping up, my body ached, my wrist hurt, my back protested, and since the tomatoes only grow in the summer, now I didn't have a job. I had doubts about whether or not I would make a good farmer. My thumb didn't seem particularly green. In the classroom, the chemicals would get all jumbled up in my head. I would forget names for parts of plants, confuse the scientific nomenclature. I would mismatch pest and biological control, and mistake carrot tops for parsley. But I did take something important away. I enjoyed farming, that's for sure. I was passionate about it, that's for sure. It brought me closer to the Earth and all the critters and creatures that call it home, that's for sure. And I longed for it to be a part of what I will do. That's for sure. And so I thought long and I thought hard. I thought about Dr. Seuss (1975) and all the thinks that I can think up if I only tried.

I think about garden snuvs with garden gloves,

Prancing around in the hay.

I think about slugs and hugs,

And bugs hugging slugs.

Don't forget about the sun, the keeper of the day,

Once it's in the sky all the schlopps come out to play.

But beware the Once-ler,

If that's where your thinks must go.

For he has an itch that can only be un-itched,

By the chomping and chewing of Truffula trees!

## 8. teaching

*A shovel into the Earth and a shovel out of the Earth. What does each shovelful bring out? Uncover? Harm, damage, kill? Soil and all the thinks to be thinked and lessons to be learned. Soil, generations (and regenerations) of knowing layered upon one another, passed down from one to another, with many layers a dark mystery that we have yet to solve, or perhaps one that has no need for a resolution. Soil, a keeper of knowledge, of history, of life – a parent, grandparent, teacher.*

I think and I thought and I thinked and I thoughted. The Once-ler chopped down all the Truffula trees because that's the world in which the Once-ler lives. A world based on Thneeds and a need for Thneeds. But boy, only if the Once-ler thought differently, because a world without Truffula trees is not a very happy world at all (have you read the book? It's rather bleak) (Seuss, 1971). So I think and I thought, and if I was no good at growing Truffula trees, what else can I do to make sure they have a place in this world? Fortunately, the answer came to me in a trusty George Bernard Shaw maxim: "He [sic] who can, does. He who cannot, teaches."

Teaching eh? Could that be something I could get on board with? Teach about the garden, in the garden. Teach about the world(s) of the garden. Teach about the world through the garden.

## 9. singing

I had an itch and I wanted to find out if teaching would un-itch. I joined a group of people who also wanted to teach, and we went around to schools, visited classrooms, and worked side by side with children of all ages in the school garden. I think back to my first time at the helm of a classroom. A group of grade twos (or was it threes or fours?) plopped down in front of me on a cool fall morning. I would confidently say that I was terrified, horrified, lost. They're all so little. And there's so many of them. And I had no idea what I am doing. So we sang a song.

Sun, soil, water, and air.

Sun, soil, water, and air.

Everything we eat,

Everything we wear,

Comes from,

Sun, soil, water, and air.

*A shovel into the Earth and a shovel out of the Earth. What does each shovelful bring out? Uncover? Harm, damage, kill? Soil. Where we came from, where all of us came from. Us: me, you, your pet dog, and the bowl of cereal you eat each morning. Soil. Alive, exciting, necessary. Giving, caring, nurturing – exhaustible. Here is a plea for us to give back to it, to care for it, to nurture it in return.*

## 10. weeding (again)

Teaching. It became something to which I was quite attached. Being outside, being in place, being connected. Growing, sowing, and of course, cooking, eating and sharing. Working with pride, and with care. Working with humility. Working knowing that you don't know and will never know the whole picture. Working in embrace of all the wonderful and unforeseen quirks and perks that the soil holds. And unlike farming, when things go sideways in the school garden, you can easily blame it on the students. They watered too much, they watered too little; they didn't water according to the watering schedule. They planted the seed too shallow, too deep. They pulled out all the lettuce plants thinking that they were weeds.

Those children, they're out-of-control, crazy, wackos. Out-of-control. Crazy. Wackos. But they made gardening that much better. Their antics. Their constant questions. Why? Why? Why? And each one you answered there would be another. Why? Why? Why? An exponential growth of thought and curiosity. When one of them grabs a worm by its slimy slithering body with their bare hands, we would then have to lecture them. Did you know that worms "breathe" through their skin? And that when you pick them up, the oils on your skin clog up these pores that are all over their body and then they have trouble breathing. Best to leave them alone. Sorry little wormy they would say. And then they would put it back in the soil where it can continue to worm away.

I remember the hours spent weeding.

Is this a weed?

Is this a weed?

Is that a weed?

This is a weed right?

Oops, that's wasn't a weed.

Sorry Mr. Not-A-Weed.

**11. digging**

And the hours spent digging. A shovel into the Earth and a shovel out of the Earth. Or sometimes, when the soil is loose, you don't need a shovel at all. A hand into the Earth and a hand out of the Earth. What do you uncover? A garden.

**12. squashing**

And the hours spent planning. Leafing through seed catalogues, fascinated by the pictures.

One squash, two squash.

Red squash, blue squash.

Acorn squash, spaghetti squash.

Raw squash, cooked squash.

**13. eating**

And the hours spent eating. Squash soup in the fall, lettuce salad in the summer, maybe with a cherry tomato or two.

**14. looking, feeling, listening, smelling, talking**

And the hours spent looking and feeling and listening and smelling and talking.

We went from school to school to school to school to teach. In the fall, we would be in the garden. Harvesting what was leftover from the summer, weeding, mulching, raking fallen

leaves, planting garlic. In the winter we mostly stayed indoors. Talking about the garden. Learning about the garden from books and videos and the plants themselves. And in the spring we would head back out. Raincoats and rainboots and warm gloves. As the school year comes to an end, we would bid farewell to the garden. See you in two months!

*A shovel into the Earth and a shovel out of the Earth. What does each shovelful bring out? Uncover? Harm, damage, kill? Life. Earthworms, woodlouse, cutworms, pill bugs. Birds chirping, landing on the precariously situated head of the sunflower plant. Pests, pollinators; beneficial, destructive. And don't forget all that the naked eye misses. The microbes, bacteria, fungi. You might not be able to see them individually but you definitely can see their impact, working away relentlessly, providing life (and sometimes, taking it away).*

**15. teaching (again)**

I was so fond of teaching that I tried my hands at teaching somewhere else, new students, new gardens, new ways of being in gardens. San Juan Comalapa, Guatemala, Central America. 14.7416 degrees North and 90.8890 degrees West. A village tucked into the hills. I taught at a small school, thirty students maybe. There was not much to work with. Some discarded car tires, half-emptied packets of stale seeds, two bags of cow manure, and a horde of children. But we did as gardeners do and forged onwards. We dug up some dirt, mixed it with manure. Made garden beds out of old tires (decorated with the children's paintings). We planted seeds in egg cartons, and to everyone's surprise, they sprouted. We transplanted and six months later, we had a garden. Six months and a few days later, Butterfly, the school's cow came and ate the garden. And a few days after that, we ate Butterfly.

*A shovel into the Earth and a shovel out of the Earth. What does each shovelful bring out? Uncover? Harm, damage, kill? The Popol Vuh, the sacred text of the K'iche' people who inhabit what we now call Guatemala. It tells of how the world came to be, of a human species made from the kernels of corn. Humans, the children of corn. A community that toils underneath the shadow of corn stalks. Bare and brown in the dry season, an ocean of lush green when the rains arrive.*

## 16. schooling (again)

I returned from Comalapa and convinced myself to go back to school. Not to learn about farming this time but about teaching, and learning, and knowing. And that's when things went a bit weird, a bit sideways, a bit haywire.

## 17. mastering

They call it a "Masters," but a "mastery" of what? I still haven't quite figured that out.

I was back in the classroom, but a different kind of classroom this time. A classroom in the shape of a circle, propelled by conversations, discussions. Sharing not lecturing. We talked about all sorts of things, like canoes and animals and students and schools. Sometimes even the Northeast quadrant would talk. We talked about justice and equality and power and colour and bodies. We argued and agreed, but always respectfully and with an open mind. Sometimes we would even talk about gardens. We would also talk about serious stuff but in fun ways. We would talk about (or should I say "with"?) Coyote and Raven, tricksters up to their no-good (and also some-good) antics and mischief. We talked about curriculum and schools, and we had a blast. We would listen to stories, draw pictures, and eat snacks. When the weather was good, we would leave the classroom altogether and take our circle and conversations outside.

*A shovel into the Earth and a shovel out of the Earth. What does each shovelful bring out? Uncover? Harm, damage, kill? Theories and stories. Theories about stories and stories about theories. And the very intelligent humans (and non-humans) that came up with these theories and stories. They used big words often and wrote complicated and hard-to-read articles often. I would try to make sense of them, sometimes I would be successful.*

**18. theorizing**

From these conversations, figures and characters started to appear in the garden. Figures and characters that never used to be there. Some take human forms – theorists, philosophers, scientists, activists, teachers, students. Some take the forms of the non-human beings of the garden – the earthworm and the ladybugs, the crow dawdling on the fence post momentarily, the trees, the sunflowers, the kale, potatoes, rhizomes. Others take the forms of spirits and ghosts. It's hard to tell whether or not they're actually there or if I'm making it all up in my mind. They all had stories to tell. There was a story about stories, and how we are, at the bottom of it all, made up of stories. There was a story (many stories actually) about how the world works.

*A shovel into the Earth and a shovel out of the Earth. What does each shovelful bring out? Uncover? Harm, damage, kill? Friends, partners, companions. Companions in this web of life, companions in this journey of living, companion in this adventure of finding ways to exist together, companions in these conversations of trying to understand one another. Companions. Worms and crickets and grasshoppers and beetles. Calendula and kale and juniper and thistle too. Companions. Non-human companions.*

## 19. pacing (again)

That brings me here, to the garden. Boxed in by side streets and busy streets and trucks going BEEP. BEEP. BEEP. I know this garden well. I've taught in it, I've learned in it, I've chased around pollinators, sought after apples, and harvested autumn leaves for mulch in this garden. I seem to be the only one here, as far as humans go that is. Beneath me, the soil is teeming with life. A worm pops up and then goes back down again. I flip over a rock and a family of pill bugs scurries away. Sorry, didn't mean to disturb you. A crow rests on the post of the chain-link fence, in search of its next shiny find I would guess. BEEP. BEEP. BEEP. I seem to be the only one here, as far as humans go, that is. No children, no teenagers, no fellow gardeners or teachers. The morning is young and the leaves are on the verge of changing colours. Much of the garden is dead by this point, shriveled up leaves and stems cut near the ground.

I am by myself in this garden. I am here because I have been tasked with the immense task of writing a paper. A thesis. A production that supposedly marks my intellectual achievement in the past three years, my "mastery." But again, a "mastery" of what? I am in the garden because I have chosen to write my thesis about the garden. I know the garden well. It is a familiar place, I've taught in it, I've worked in it, I've learned in it and about it and through it. But unfamiliar characters have also appeared. Curious characters. Disruptive characters. Characters with lots to say and many ways of saying them. How do I piece them together?

I pace around because pacing helps me think. Maybe it's the rhythm of the step, step, step; step, step, step. I'm not sure. But something about pacing helps me think. Clockwise and then counter-clockwise. In between the garden beds demarcated by 2x4s, 4x4s and ceramic pots, careful not to step on anything. Careful step, careful step, careful step. There's something on my mind, something that crept there and now refuses to leave. I need to do some thinking to get it

out of there. I think a little too much and I become confused, frustrated, annoyed. Thinking isn't fun anymore.

### 20. stubbing (my toe)

Step, step, step.

Step, step, step.

Step, step, step.

Step, step, step.

Step, step, step.

Step, step, step.

Step, step, step.

Step,

step,

step,

And THHHHHWAAAACK.

OWW!

## Act II

### 1. stubbing (my toe)

A sharp pain shoots up, from my toenails up my spine and registering a rather unpleasant reaction from my central nervous system. I stumble and I hobble but manage to catch myself before I plant my face into the dirt. Ow, ow, owie, ow.

*Watch it you!*

The voice startles me. Who's there? Was I not the only one in the garden?

*Watch it you!*

The voice startles me. I look around, my eyes yearning to find the source of the voice.

*Watch it you!*

The voice startles me. I look up, a song sparrow flutters from branch to branch, a gentle shuddering of the leaves every time she lands. The oak tree sways in the gentle breeze. The water lilies in the pond hide whatever life that may be underneath.

*Psssst. Down here you dummy!*

Down? I look down.

*Look down.*

*Further down.*

*Down to the ground where you never bother to look.*

So I do. I look down. And further down. And down to the ground where I never bother to look. Down until my body is against the Earth. And what do I see? A rock. A rock. Step, step, step and I must have stubbed my toe on a rock. And the rock didn't look too pleased with me.

## 2. crunching

*Well, of course I'm not too pleased with you. I was having a perfectly pleasant morning. Calm and quiet and not another human in sight. Calm and quiet, having stimulating rock conversations with my fellow rock friends.*

*Then you came along, thinking you were the only one in the garden who had any thinking to do. You hogged all the thinking. Step, step, step. Crunch, crunch, crunch. Your shoes crunching on the gravel path, crunching up a miserable tune. If grade school taught you anything, you'd know*

*that sound waves travel faster in solids than in liquids or gases. Crunch, crunch, crunch. Every vibration I felt through the Earth.*

*How am I supposed to have any conversations, tell any stories, with you causing such a ruckus? I have a thought, I start a sentence, then I lose it. How rude.*

*Do you know what the top-notch most important rule in the garden code of conduct is? Respect. Respect for all things in the garden, and no, it's not only humans that are in the garden. There's plants and animals and microbes and fungi and of course, rocks. We all share this space. Plenty of room for all of us to do our planting and harvesting and talking and thinking. As long as we all learn to get along with one another. Bad manners are not appreciated here, intentional or accidental, or even by default.*

### 3. apologizing

I apologize. Sorry?

*That's a start. Apology accepted.*

### 4. talking

*Now, since you've got my attention, perhaps I can be of some assistance? What could possibly be on your mind that has you pacing and thinking so intently?*

I think to myself: would the academy ever accept a rock as a reference for my thesis. I doubt it. I wonder if the rock has any peer-reviewed papers to its name. Then I realize that without hands, it would be awfully difficult for the rock to type on a computer. I'm skeptical but I'm curious. I oblige. Well, rock, I say. You see, I'm in school.

*School, I know what school is. We rocks have schools too. Up in the mountains, for years and years, longer than you can ever imagine. Up there, the mountains talk to us, the plants talk to us, the animals talk to us. We learn about the world and a whole bunch more. So by the time you see us, hardened by wind, chiseled by rivers, and expelled from the bowels of the Earth's crust, we are oh-so-wise. Full of wisdom. Now, only if you humans ever bothered talking with us, expand your language to include some rock languages, maybe you'd learn a thing or two and not mess this planet up so badly.*

And in school, they make you do homework.

*Human school though? Boring! You all learn the same thing year after year. Boring and stubborn, scared of new ideas, scared of talking to rocks.*

And I've got this one homework, a paper, a thesis to write so I can graduate. You know, wear a funny hat and walk across a stage, pretending I've "mastered" something. And I figured, since I like gardens so much, maybe I should write about gardens. School gardens you know? Like the one we're in right now. Because I quite like schools too. And school gardens are all the rage these days. So many wonderful stories about them. They make students smarter, they make them healthier, and they make them care more about the environment. They're popping up all over the place.

*Gardens? I know all about gardens, I live in one.*

And so I asked some big questions about schools and about gardens and about school gardens. Then I embarked on what I hoped to be a wonderful journey to answer them. But that was wishful thinking. Now I'm stuck with a bunch of questions that I can't unask.

*Nope, surely not. A question asked cannot be unasked; a story told cannot be untold. A very wise King once told me that.*

(King, 2003)

*So what might these questions be?*

## 5. questioning

Question 1: Why do we love school gardens so much? What do the "experts" have to say about school gardens? (you know, the researchers, scholars, academics , the ones with Ph.Ds next to their names).

Question 2: How can we make school gardens even better? What new and/or different theories offered by new and/or different "experts" can we apply to make them better?

*You forgot Question 3.*

Question 3? There is no Question 3.

*Of course there's a Question 3. There's always a Question 3. Even a Question 4 and 5 and 6 and 7 and 8 and 9 and so on. But let's not overwhelm your poor brain for now.*

Okay, so what's Question 3 then?

*And Question 3: What can you learn about school gardens when you stop being such arrogant humans and honour and acknowledge all beings – human, non-human, and more-than-human – with whom you share the garden?*

I raise an eyebrow. A tad confused.

*Yup, Question 3. That's why you're stuck with such big questions that you can't seem to answer. Because you're asking the wrong questions of the wrong people. You're asking questions that shouldn't even be asked to people in the first place. You're asking plant questions, animal questions, spirit questions, soil questions, rock questions.*

I don't get it.

*Oh dear, we've got work to do.*

## 6. Dr. Seussing

*You see, all your questions are human questions. What do humans know about the garden? How may humans benefit from the garden? How can humans better take care of the garden? When you think about it, they're all the same questions. Human this and human that. You're stuck in the same head thinking the same thoughts, giving yourselves pats on the back when you feel like you've achieved something. But you haven't. You've thought up the same thing but with different words, updated words but the same grammar, syntax, language rules. Version 1.1 or 1.2. But still belonging to Version 1, 1 version to rule them all. What about Version 2 or 3 or 4? What about the larger and grander world (or even worlds) beyond that human one of yours?*

*All you humans with your humanly thinks,*

*Thinking about this and thinking about that.*

*You think about honey and sweet, sweet money,*

*From bee to bee taking all that you please.*

*You think about land,*

*Oh how empty it seems!*

I glance around me, not another human in sight.

*Waiting to be snatched up by your ol' grimy hands.*

*Why is it that you think only about yourself.*

*As if all the rest of us are silent house elves. (Rowling, 2000)*

*You think about progress,*

*And you scream and you yell,*

*It's the best! It's the best, It's the best, best, best!*

*All aboard and forward, forgetting the rest.*

All aboard and forward, no time for rest.

*What about backwards?*

*What about sidewards?*

Sidewards does not appear to be a word in the English language, yet.

*What about upwards and downwards?*

*Downwards where the worms play,*

*Weaving mazes in clay.*

*Downwards and downwards, until you're underground-wards,*

*Underground with our foes, the grubs, dunks, and thrips.*

Not quite sure what those are. Never learned anything about them in school.

*Underground with our friends, the bugs, skunks, and ribbits.*

*So let me tell you all the thinks you CAN think,*

*When your thinking is open and not set in its ways.*

*You can also think about others, like hawks and like rocks,*

*And all the others wearing their silly green frocks.*

*The others, that you've ignored, forgotten, and lost.*

*The others – hey! We're still here, mind us, even if we're mossed.*

A poem? I like poems.

## 7. beginning (again)

*Poems and stories, and playing in the sun. Snap out of it. Snap out of your academicspeak. Your big words that know one can understand and no one can care to bother understanding. What about rocks? What about earthworms and pill bugs? What about children? The children! THINK ABOUT THE CHILDREN! You even forget about the children, probably because they're a lot like rocks, stubborn and covered in mud much of the time. But what might they have to say or want to say about the garden? After all, they're the ones who have to sit through your gardening lesson plan. What might the garden have to say about your gardening lesson plan? How would the garden like itself to be taught and talked about?*

*Forget what you know. Forget the usual science thinks, mathematic thinks, social studies thinks, and double thinks. Forget Version 1 and 1.1 and 1.2. Start over, begin anew – Version 2, Version 3, Version 4, Version √(-1). Now that's the fun stuff.*

Starting all over again? I think I've tried that. Something about a lychee tree and making a mess.

*No silly! I mean from the beginning.*

The beginning?

*Yes, the very beginning.*

In that case, I think it went something like this. It started with an explosion and a loud bang. Something came out of nothing and nothing became something. Or at least that's what Bill Gates told me. That something was the universe, it expanded and expanded and –

*Wrong!*

Umm, okay. What about this one then. You'll like this one. It has a garden in it. A beautiful garden; safe, warm, plentiful. And in the garden there was a man named Adam and a woman named Eve. Everything was going finely until one day they ran into a snake –

*Wrong again!*

Geez. Okay, I'll try again. I think I've got it now. I read this story somewhere and I quite liked it. It has a woman falling from the sky and a bunch of talking animals, including a turtle, a muskrat –

*Oh, that one. I know that one and yes, it is indeed quite a good story. But still, WRONG!*

Well, that's all the beginnings I've got then.

*AHA! There you go. That's the whole point. Trick question. There's not one beginning but many beginnings. Some beginnings even begin in the middle of other beginnings. Other beginnings we have no idea where or how they began. So many beginnings that you can't really call them beginnings anymore.*

Many beginnings?

*Right. Or no beginnings.*

I don't get it.

*Oh dear, we've got work to do.*

## 8. beginning(s)

*How about you follow me? We can only get so far by merely talking alone. There are sights to see, smells to smell, sounds to hear, and other wonderful critters with whom we can converse. Maybe they'll be able to set you straight. How 'bout it? An adventure?*

An adventure? I like adventures? Where are we going? What do I need

*A shovel.*

A shovel?

*Exactly. We're going downwards.*

*Downwards,*

*Downwards,*

*Downwards,*

*Until we're underground-wards.*

*You've heard it before. A shovelful into the Earth and a shovelful out of the Earth. What does it reveal? What does it uncover? An adventure!*

## 9. preparing

*We're digging a hole and then we're going to fall into it. We're going to fall into a dark and musky place. Where it's unfamiliar to you. Where we'll find all sorts of mysterious and wonderful creatures partying it up. Dancing, talking, philosophizing. An underground party, because that's where you've forced them all to go. Non-human creatures, more-than-human creatures, other/ed-human creatures. You know, the ones that don't quite want to participate in your academicspeak. Maybe it bores them, puts them to sleep. Maybe it scares them, takes away their way of life. You've uprooted them, thinned them out, weeded them out, sprayed chemicals over them until they've shriveled up and died, genetically modified them so they're not themselves anymore. You've made the above-ground world inhospitable to them so they've gone underground.*

*They've gone underground-wards. To hide, to survive. Amongst the roots, the rhizomes, and the microbes. Hoping that the day will never come when they are excavated and paved over. "Pave paradise and put up a parking lot," you know how it goes.*

(Mitchell, 1970)

Alright, alright. A shovel. There's shovels in the shed. I'll go get one.

*Good. Next, you're going to want light. It's dark down there I said, not much sunlight, not after so many parking lots were built. Concrete, not much can get through. You're going to want light but be careful, not one that is too bright. You don't want to scare no one, blind no one.*

I have a headlamp in my bag. USB Rechargeable.

*Good. A helmet, you're going to need a helmet. Ever done any spelunking? Kind of like that. Low ceiling and lots of banging your head, especially for someone unfamiliar with the terrain. Safety first. But make sure the helmet lets your head breathe, we do want new thoughts to penetrate that already thick skull of yours don't we?*

Helmet, helmet, helmet. I've got my bike helmet. It has holes so my head can breathe.

*Good. Now a few more loose ends. Snacks? Warm clothes? A change of socks? Pen and paper?*

Check. Check. Check, and check.

*And you're going to need to bring gifts.*

Gifts? Is it someone's birthday?

*No. No! NO! We're visitors. We want to be courteous. We want to be good guests. We want our hosts to welcome us back. You know how at the end of the year children give gifts to their teachers? Well, same goes here. Take something, give something. Reciprocity it's called sometimes. We'll be meeting with, speaking with, and learning from plant teachers, animal*

*teachers, root teachers, and of course, rock teachers. Human teachers get gifts, so why shouldn't non-human teachers.*

Okay, I get your point. Gifts, gifts, gifts. What do I have for gifts. I have a chocolate bar that I was going to have for post-lunch snack. I guess I can give that up.

*If that's all you've got then.*

I guess so.

*Ready?*

I'm not sure but sure.

**10. digging**

*Then start digging.*

Where?

*Over there.*

Over here? A patch of bare soil in the middle of a garden bed.

*Yes.*

Are you going to help?

*Can't.*

*I'm a rock.*

*Got no arms.*

*Can't hold a shovel.*

Fine

TWHAP.

*A shovel into the Earth.*

CRUNCH.

*A shovel out of the Earth.*

SWOOSH.

*What does each shovelful uncover?*

CRACK.

*Reveal?*

THUD.

*Kill? Harm?*

THWACK.

**Act III**

**1. falling**

I fall.

I dig a hole and I fall into it.

Falling.

Falling.

Falling.

Falling.

FALLING.

FALLING!

FALLING!!!!

*FALLING!!!!!!!!!!*

THUD.

I dig a hole and I fall into it. As I fall I think to myself, hmm, I'm falling rather far. As I fall I think to myself, hmm, what an interesting feeling, this falling. As I fall I think to myself, hmm, it sure is going to hurt when I stop falling. And then THUD. I land straight on my bum. Good thing the soil is soft. I check myself over: a bruise tomorrow morning maybe but aside from that, I still seem to be in one piece.

*WEEEEEEEEEEEEEEEEEEEEEEEEEE!*

I hear a whistling noise coming from above, getting louder. SMACK. The rock lands squarely on my head.

*Thank you for catching my fall there. Told you a helmet was much needed.*

You're welcome?

*Enough small talk. Light.*

## 2. looking

Light. I look up. The mouth of the hole that I dug (and then fell into) seems far, far away. Sunlight rarely reaches these parts I think to myself. Light. That would help. I reach into my backpack in the dark and feel my fingers close around my headlamp. I put it over my head and turn it on, setting LOW (O'Riley, 2003).

The burst of light blurs my vision. I blink, the dark spots gradually go away. Then my surroundings come into focus. So this is what the underground world looks like eh? Everything you thought it would be, dark, musky, and rather cramped. I'm in a tunnel, darkness in front of me and the same behind.

The roof of the tunnel, it's held up by a thick network of roots woven together. The roots of different plants shaking hands. Some are friendly, offering gifts of nutrients and minerals.

Others not so much, using up all the nutrients and water so that there are none left for anyone else. Branched roots, fibrous roots, and tuberoid roots. They come down from the ceiling, along the walls of the tunnels and line the floors. A tunnel held up not by concrete blocks but by roots, natural design, animal architecture.

(Hansell, 2005)

I am in a tunnel of roots going nowhere in particular. Here and there a taproot comes jutting down, forming pillars that connect Earth to Earth. From the dandelion perhaps. Note to self, please be careful not to walk into them. Above ground, we plant in nice, neat, orderly rows. Easy to manage, easy to control. Down here where we don't see and where we don't go, it's a different story. It's a mess. Ro o t s p r a w l, sidewards and downwards and underground-wards. And the roots are not only roots but root communities, whole communities found congregating on these woody strands, fungi, bacteria, and other curious microscopic beings.

Speaking of nowhere in particular, amongst the roots are the rhizomes. Not roots at all but miraculous underground stems. They look like individual plants above-ground but down here, they are all connected. One horsetail joins another horsetail joins another and another and another and another. Subterranean stems joined at the nodes – intersections, meeting points, gathering spaces.

### 3. welcoming

*Hello there. Thinking about me?*

A voice startles me. Rock? Was that you?

*Nope.*

*Ahem, that was me.*

A voice startles me. I crane my head back and forth, in search of the voice. Is it coming from the roots? Are the roots talking to me? The day gets odder with each passing moment.

*Nope, not roots. Rhizomes, underground stems. You knew that already though. You called us miraculous, remember?*

The rhizome, it must have heard my thinkings. I respond, right, I did know that already.

*Well, thank you for those kind words. I would like to welcome you to this wonderful world that we have here underground-wards. We've been curious to see if you would pay us a visit. You know, with all those step, step, steps and pace, pace, paces. We hear the vibrations shooting through the Earth. That's some tough thinking you've got yourself all buggered out about. Seeing as how you're new here, I'd like to provide you with some directions, some instructions, to make your visit more enjoyable. You see here, down here is an ever-expanding landscape. Open-ended, open-minded. This tunnel that you're standing in the middle of right now? It's one among too many for me to count on all my rhizomatic fingers or phalangeal rhizomes. The tunnels, they branch off, they radiate, they twist and turn, they connect and split off again. You can go forward and find yourself back where you started. You can turn left and find yourself going right. It's all really simple if you think about it. In these tunnels, there's no beginning tunnel or end tunnel. Only more tunnels. More tunnels for more wandering.*

But how will I know which tunnels to walk down? Which way to wander? Right and wrong, there's always a right and a wrong isn't there? White and black, up and down, forwards and backwards.

*Oh dear, that is indeed a very humanly question to ask.*

## 4. horsetailing

*Oh dear indeed. Where are we going, where are we going. Where are any of us really going? To the grave, to the compost bin. And then to become life again.*

*You see, the question of "where we are going" is a rather awkward one. Where are we going? I'm not so sure. There's many places one could go, forwards and backwards, sidewards, upwards, and of course, underground-wards. The probability of getting lost is tremendous. Getting lost is a joyful experience. You can learn a lot by getting lost, stumble upon many things you wouldn't otherwise (say a rock). Lost in place, lost in emotions, lost in thought. Step, step, step. Pace, pace, pace.*

*So you see, you shouldn't be afraid of getting lost. You should be excited. In your human schools, it's so hard to get lost. Everything is carefully set out; you learn this at this age and you know you've learned it because you can answer this test question.*

*You have this curriculum, your map, your compass, your everything. It is a map on a sheet of paper with margins and edges. Go too far and you fall off. So you stay within the margins for fear of falling. Within, the terrain is familiar, plotted and named. The land has been claimed, the boundaries marked. You settle on this map, make yourself a comfortable home. And you never give yourself a chance to get lost.*

Old habits are hard to break. I take out my compass, intending to check my coordinates, only to find the needle spinning in circles. Out of control. You use a compass to orient yourself, to set your course. But this compass is no help down here. Underground-wards, compasses disorientate. I put it away. I'm dizzy. The rhizome continues.

*We have many different maps of many different worlds. Some connect to make one even bigger map, others contradict. Sometimes you have to put one map on top of another and see how they speak to each other to make any sense of anything. The point is that there are many maps. They are all open, mapping but not mapped. Talking with other maps, sharing information with other maps. Tasting the territory as perhaps a farmer does with his or her soil. Really, when you think about it, it rather resembles rhizomes. An interconnected network of stems coming together at the nodes, with news ones springing up all the time. There are physical rhizomes and there are knowledge rhizomes. And most of the time, you can't tell them apart.*

## 5. getting (lost)

I take a moment to consider all that the rhizome has said. Okay, let me get this straight. So this underground place that I've found myself, this tunnel where I've ended up, you're saying that it's like a rhizome. They branch all over, without a beginning or an end. Middles all over.

*You could say that.*

And that in my attempts to navigate this rhizomatic space, I am very likely to get lost.

*You could say that. But navigating might be too arrogant a word for what you have coming. Not so much navigating as in stumbling around. And not so much likely as surely.*

Okay, so in my attempts to stumble around in this rhizomatic space, I am very surely going to get lost.

*Much better.*

I don't know how I feel about that.

*The rock pipes in. Don't knock it until you've tried it! Nice to see you again rhizome my fair friend. But we best be off, plenty of others for this human to meet.*

*Well then, farewell and safe journeys. And don't worry, I'm here, there, and all over, you'll never truly be left alone with only a rock for company.*

## 6. stumbling

I depart. This tunnel is made for critters, not for humans. And it's a tight squeeze for me. I'm on my hands and knees, rock in one hand and head against the ceiling (thankfully I've got a bicycle helmet up there). I head down the tunnel come to an intersection. The rock yells out directions.

*LEFT!*

I go left. Only to be met by more tunnels.

*RIGHT!*

I go right and – surprise – more tunnels.

*Left! Right! Left! Right! Left! Right! Left! Left! No, not right, left! Now right! Left! Right! Straight ahead. Umm, hold on a moment. Actually, backwards. Now forwards. Left again!*

I become all tangled up, my shoes get tangled up with the roots and rhizomes I crawl alongside. I drag them along with me, getting heavier, heavier, and heavier. My thoughts get all tangled up – rocks and rhizomes and now I'm definitely lost. And then I crawl into something, something hard, something crunchy, and it hurts.

OW! A stalagmite perhaps? (or are stalactites the ones that hang from the ceilings, I can never remember which is which). I direct my headlamp towards the obtrusion. In the glow, I make out orange and purple nubs protruding from the ceiling, lined up in a neat row all the way down the tunnel. I look a little closer and then it comes to me: oh! Carrots! I must be underneath where the carrots have been planted. I wonder if they're ready to be harvested or not so I take a nibble. Crunch, crunch, crunch.

*Hey you! Watch who you're nibbling!*

## 7. nibbling

I guess I should've expected this. Down here, carrots can talk too. Or maybe it's that down here, I've learned to listen a little bit better, a little bit more carefully, more respectfully.

*You bet your silly self that carrots can talk!*

*And gee, do we have a lot to say!*

*And gee, do you have a lot to answer to human!*

The whole row of carrots has broken out in an angry chorus. The carrots don't seem to be as friendly nor as and welcoming as the rhizome.

*And certainly not as charming as the rock!*

*No we certainly are not.*

*We are rather tired of your antics.*

*Yea, tired!*

Their voices echo down the tunnel, branching and branching as the tunnel does. My antics? What do you mean?

*Yes, your antics.*

*Your humanly antics.*

*Your 'antic disposition'* (Cole, 2017).

*Let us put it this way.*

*Have you ever planted carrots before?*

*How do you plant carrots?*

## 8. planting (carrots)

That I've done and I'm excited to share:

1. You go and buy seeds from the seed shop, they've got all the different kinds of carrots. Big carrots, small carrots. Thin carrots and plump carrots. They've even got orange carrots, red carrots, and Cosmic Purple carrots.
2. You wait for spring. Once spring comes and the soil is free of frost, you throw on compost or organic fertilizer or you till in the mulch or cover crop from the season before. You prepare the soil so that it's ready for the incoming carrots.
3. Right before you plant your carrot seeds, make sure you water the soil. Nice and moist, that's what the carrots like.
4. You sow the carrot seeds. Make a shallow trench, with your finger. No more than 5mm deep please. Then put the seeds in. Warning, carrot seeds are small, so be sure to not over-sow. 2 seeds per 5cm, that's what I was told.
5. Now, cover the seeds back up and watch them grow, grow, grow!
6. Once they've sprouted wee lil' seedlings, you're going to want to thin them out. You'll want to thin them out or else they'll be too crowded. So you go through and you pluck the small ones and keep the best growing ones. You thin them out so you have a nice neat row of carrots.
7. Eat, hibernate, and repeat.

*AHA! Guilty!*

*That's the problem!*

*What is a carrot to you?*

*Vitamin C.*

*Folate.*

*Beta carotene.*

*Soup.*

*A teachable moment.*

*Control!*

Control?

*Yes. Control.*

That last one, it came from a different voice. Not carrots and not the rock, but it sounds familiar. The rhizome.

## 9. thinning

*Yes, it's me again. I see you've met our carrot friends. And gee, do they have quite a bit to say. When you humans come to the garden, you become obsessed with controlling the garden.*

*Control the plants!*

*Control the insects!*

*Control the microbes!*

*Control the animals!*

*But what if we don't want to be controlled?*

*You till and weed and chemicalize and fertilize. You mark out square beds and you plant in nice, straight rows. You put up fences and signs – NO TRESPASSING, PRIVATE PROPERTY – so other humans can't get in. It's all very orderly you see, fashioned by humans for humans. You control it so you can benefit the most from it. In your eyes, if the garden does not benefit humans,*

*why garden at all? But that's not necessarily how the world works. That's only one way the world could work.*

*The garden is not human, the garden is shared, between humans and carrots and rhizomes and rocks and many more wonderful characters that I'm sure you'll encounter in even a short visit down here. You see, we're down here because we don't want to be controlled, we want to live according to our own instructions, our own stories, our own traditions and customs.*

*We don't want to be controlled!*

*We don't want to be thinned out!*

*We don't want to grow in a neat row!*

*We don't want to be fenced in by 2x4s!*

*Or 4x4s or any odd piece of lumber that you might have hanging around your garage.*

*You humans thin out knowledge like you thin out carrots. You keep only the ones that you want, the fast growing ones, ones that you hope will yield sweet and juicy carrots. But what about the ones that are not so? The ones that you thinned out before they even had a chance to grow?*

*Our brothers!*

*And sisters!*

*And nieces!*

*And nephews!*

*And friends!*

But I've always been taught to thin out carrots. If you don't they become too crowded, they get in each other's ways when they grow, they grow into odd shapes that aren't so pleasant for the eyes.

*So what if we grow in the shape of a fork?*

*Or a hand?*

*Or feet?*

*Or if we're all tangled up with ourselves?*

*Or if we're a little bit thin?*

*You tell your children that each one of them is special.*

*Each one of them has special gifts.*

*What about carrots?*

*Are we not allowed to be special?*

*Do you expect us to all be the same, look the same, taste the same way.*

*You control carrots. You say that carrots have to look carrot-shaped and be carrot-coloured. But they still come out all weird and wonky sometimes. They refuse to be controlled. They resist. Even after all these years, the carrots still resist, coming out a fork-shaped and hand-shaped and twisted and tangled.*

I understand better now. I leave a bit of my chocolate bar with the carrots and move on. Heading deeper and deeper down the tunnels (or perhaps not deeper? It's hard to say which direction I'm heading anymore. But surely with more profundity. A few more tunnels in, I come across more voices.

**10. digging (again, this time for potatoes)**

*Hello!*

*Hello there!*

*Hello!*

*Hello folks! Visitors? Need a hand?*

More voices? Who could it be this time? Another neat row of annoyed carrots? Doesn't sound like them though. Higher pitched, squeakier, like a bickering couple. And it seems to be coming from all around me, from the walls, ceiling, and floor of the tunnel.

*Psst, over here!*

*And here!*

*Up here!*

*Here too! Don't forget about here!*

*Over here!*

*No, look down here!*

I look harder and my eyes grow sharper, adjusting to the low light. Potatoes.

*Haykuykuy! I'm Potato 1* (Apffel-Marglin, 1998).

*I'm Potato 2.*

*I'm Potato 5.*

*And over there are Potatoes 6, 8, and 9.*

*Not sure where 3, 4 or 7 went. Perhaps a hungry bird of some sort dug them up.*

*Or field mice.*

*Or voles and moles.*

*Hello human! How nice to see one of your kind down here. Doesn't happen all that often.*

*What brings you down to our part of the world today?*

H…H…Homework? I stutt..utter.

*Homework?*

*Ooh, look! We've got ourselves a school type!*

*A smartypants.*

*If you're so smart, what can you tell us about potatoes?*

*Besides that we make delicious French fries and poutine.*

I leaf through the pages of my brain. What do my teachers have to say about potatoes? The agriculturalists, botanists, university professors and researchers I've read. You know, the ones with Ph.Ds next to their names. The "experts" on potatoes.

*Pffft. What would they ever know about potatoes?*

*Yea, what do they know?*

*Never seen one of them down here.*

*Never seen one of them try to make conversation.*

*All they do is observe us.*

*Do experiments on us.*

*(Without our permission if I may say).*

*Take notes on us.*

*Publish things about us and get rich in the process.*

*But they never bother communicating with us, learning a potato word or two.*

*They don't even acknowledge that we have a voice, or rights, or agency.*

*They don't thank us for helping them get wealthy.*

*Reciprocity, do you know what that means?*

*Apparently not. You researching-types have forgotten what it means.*

*(Or perhaps you never did in the first place).*

*The rhizome interjects. What they're trying to tell you, you see, is that you've been listening to narrowminded people, reading narrowminded research papers. People who think in a certain*

*way, subscribe to one kind of thought, and look down others who do and think differently. You know, there's more to potatoes than an interim step to French fries and poutine.*

*We're so much more!*

*So much more!*

*We've got a rich potato history.*

*Such a rich potato history.*

*That goes back twelve thousand years.*

*We came from what you label on your maps as Peru.*

*But it hasn't always been Peru. It used to be called something else.*

*Didn't even know what Peru was.*

*Until some settlers came along and started calling it Peru.*

*The Peruvian Andes are one of the centre of origins of agriculture. Origin-ings that precede the Spaniard's arrival by eleven thousand five hundred years. The Indigenous peoples there, the Quechua and others, they grew potatoes on their chacras. Plots of land that each family in the village had, where they sustained themselves whether through plant matter or livestock. And the chacras belonged to ayllus, communities that included the whole web of life, mountains and streams and plants and animals and spirits and the humans too of course.*

(Apffel-Marglin, 1998)

So the chacras are gardens?

*Oh human, how confused you are.*

**11. nurturing**

*For you, gardens are for gardening.*

*You go to your gardens on a sunny afternoon and put in a few hours of work.*

*That's what you think a garden is.*

*Then you go home.*

*Take a shower.*

*Cleanse your body of dirt and plant matter.*

*But that's not what chacras are.*

*Chacras are not for gardening, they're for living.*

*Not a pastime but a way of life.*

*Nurture and be nurtured, that's the way of life.*

*That's us alright.*

*On the chacra, potatoes are family.*

*Our human companions called us their daughters-in-law.*

*They took care of us.*

*We belonged to the same Pacha, the same household, the same family.*

*Pachamama, Mama Earth. The household to which we all belong.*

*During the festivals and ceremonies, our potato elders would remind us.*

*"Nurture these humans as we have done," they would say.*

*And we would oblige.*

*Nurture and be nurtured.*

*Partners you see?*

*Not French fries, not poutine, not food.*

*Partners!*

*And do you know what makes a successful and meaningful partnership?*

*Conversation!*

*Conversations makes companions, not subjects-objects.*

*Conversations, that's delicate stuff to do.*

*Especially when you're trying to dialogue between species.*

*Between potatoes and humans.*

*Took years to figure out how to do it.*

*But we found a way.*

*Generations and generations of potatoes with generations and generations of humans.*

*They found a way to converse, to communicate.*

*Ayni, they called it.*

*That's a Quechua word.*

*In English, you might call it reciprocity.*

*Nurture and be nurtured.*

*The humans would always thank us.*

*Give us gifts, give our spirits gifts.*

*And in turn, we would feed them.*

**12. resisting**

*But such a way of life was disrupted!*

*The chacras disrupted!*

*"Progress," they told us it was called.*

*Who's "they"?*

*Those who don't understand our way of life.*

*Those who don't understand the world in which we live.*

*Those involved in the conquering.*

*Those who continue to conquer.*

*Conquer ways of life that are unfamiliar to them.*

*Stamping them out of existence.*

*With footsteps, words, genetics, and development.*

*"Progress," they told us. It'll make everything better.*

*But we had our own question.*

*Where are we progressing to?*

*We're very happy exactly where we are we said.*

*Very happy. Lived like this for years.*

*But they DEMAND PROGRESS!*

*Development, that was how it was advertised.*

*And they were going to get it whichever way they could.*

*They told us we were backwards, that our ways of being on the land were backwards.*

*They offered us new technologies, new infrastructure, new seeds.*

*More yield, less work.*

*But all we really wanted, was to be left alone.*

*We liked our work.*

*For working the land is a joyous experience.*

*Ask any of your students and they'll tell you!*

**13. regenerating**

*So you see, potato life was dramatically disrupted. But despite having "development" and "progress" forcibly impressed upon their ways of life, potatoes, Indigenous peoples of the Andes and their traditional livelihoods did not go away. There is a movement now.*

*A grand movement indeed!*

*A regeneration.*

*Learning the old ways, the traditions.*

*Learning how to speak with each other (again).*

*Humans and potatoes.*

*(Hey, don't forget everything else!)*

*(Right, because there is so much more to the world than humans and potatoes)*

*(Humans, potatoes, spirits, the soil, the Earthworm, the cattle, and so on)*

*Learning how to give thanks to one another.*

*Nurture and be nurtured.*

*Learning to be in harmony with all of Pachamama.*

*Learning to tend to the chacras.*

*Not by chemicals but by reading the world.*

*Understanding the constellations.*

*Listening to the rhythms of the Earth.*

*We have resisted together.*

*Our human companions, our spirit companions, and all of our other companions.*

*And boy will we go on resisting.*

*Respecting.*

*Regenerating.*

*Reciprocating* (Apffel-Marglin, 1998).

I look at the potatoes with much admiration. The generations upon generations of knowledge that they hold, yet it is knowledge that remains underground; threatened by the machines of progress that work above-ground. So much they can share with us, so much we could learn from them and with them. I give them my thanks and leave them a gift, another piece of my chocolate bar. These Potatoes have given me quite a bit to think about. A different garden to think about, and a different garden to think with. You think with gardens, gardens of the mind. You can reduce a garden to numbers – calories, nutrients, GPAs. Or you can consider it in its entirety, its entirety of connections and interconnections, relations and interrelations. You can consider it as a place of sharing—food, ideas, gratitude—of conversations, of *ayni*, the Quechua word for reciprocity (Apffel-Marglin, 1998).

**Act IV**

**1. wandering (yes, still underground)**

I shuffle along, still on my hands and knees. Crawling, crawling, crawling. My knees are starting to hurt. I make a note to myself, add knee pads to the packing list the next time I'm down here. The more time I spend in this underground world, the more aware I am of my surroundings. The roots, the dirt, and the earthworms that peek out from the dirt every once in a while to look at me with a curious gaze. The more time I spend down here the more comfortable I am. I am undeniably lost. But I am also more comfortable with navigating by NOT navigating, by NOT

plotting a course and following it, by NOT entering coordinates into my GPS. The more comfortable I am the more humbled I become.

There I was, thinking that everything important about the garden happens above-ground. Sure, that's where all the pretty flowers and plump fruits are. That's the one I've spent my entire life exploring, learning about, reading about, teaching through. But there's so much more to it. For every plant that you come across above-ground, there's an unimaginably vast world(s) below-ground – networks, relationships, webs of nurturing. Oh! All the thinks you can think, only if you bothered to think a little bit more, a little bit deeper, a little bit differently.

## 2. knocking

I'm crawling along, lost in thought and then THUMP. I crawl straight into a wall, a concrete wall. Not dirt but concrete. Awfully strange to run into down here I think to myself. Its damp gray veneer looking rather out of place. Lifeless. Hey! What's this doing here?
*Hmm, strange. Out of place in indeed. Maybe there's someone or something behind this wall? I say a greeting.*

HELLO! Hello! hello hello hello hello.

My hellos echo off the machine-levelled surface.

And I am greeted by silence and echoes of silence.

No dialogue happening here.

A knock perhaps? I give the wall a light knock.

Tap. Tap. Tap.

Silence.

I knock louder.

TAP. TAP. TAP.

Still silence.

*The rock budges in. Here, try this.*

*Knock, knock.*

We wait for a "who's there?"

*Silence.*

*Hmm, can't even take a joke. Now that's no fun at all.*

If the rock doesn't know what this wall is doing here, and if I don't know what this wall is doing here, then what do we do now? We could simply turn back I suppose. But I'm curious. Who put this wall here, why did they put it here, and what might be behind it? Rhizome? I ask, hoping for a response.

*A familiar voice comes up overhead. You called?*

Thank goodness you're here! What is going on with this concrete wall? Why is it here? What should I do?

### 3. ranting

*Well, that's an easy question to answer. You put it here so you should take responsibility for it.*

I put it here? I don't remember putting it here.

*No, no, no. Not YOU, you but you as a human, as a species. You know, on the occasion that you do come down to these parts, you do so not with the intention of learning from us and talking*

*with us but with excavation on your mind. Waving big contracts worth lots of money, watch out everyone! Coming through! Get out of my way please! There's condos to be built, schools to be put up, roads to be paved. "Pave paradise and put up a parking lot," you say.*

(Mitchell, 1970)

*Hey! The rock interjects. That's my line!*

*In all fairness, that's Joni Mitchell's line. So you come down here with your obnoxious technologies, powered by diesel, spewing nauseating fumes into the air, making a whole lot of noise.*

*How rude!*

*You don't ask us for permission. You simply dig us out, remove us from our homes and put us in a big pile of nothing. What's even worse are the concrete mixers. BEEP, BEEP, BEEP, they make sure you know when they're coming. Churning and churning then a whole bunch of grey sludge comes pouring down. They fill up the hole that was excavated. Now nothing gets in and nothing gets out. Concrete, that stuff is impermeable, nothing gets through – no light, no water, no nutrients, no ideas, no thoughts – no life.*

I notice myself growing slightly defensive. But we need those things. We need to put down concrete foundations so we can build things, useful things, necessary things, like schools, on top.

*Ahh, there's the problem you see. You build a school on concrete foundations and what do you get? A school of concrete. An impermeable school, impermeable to new thoughts, impermeable to all the thinks that you can think if you thinked deeper and farther. But in a concrete school, if you think deeper and farther you run into concrete walls or concrete floors. THUD. OW! Impermeable, can't get in, can't get out.*

I knock on the wall again. Tap. Tap. Tap. It's impermeable alright.

*Not to mention that it creates a serious water runoff problem, but hey that's a topic for another day.*

*Impermeable, defending the young and malleable minds of the children from below-ground thinkings. Teaching them the same old things. Humans first, everything else second you tell them. You teach them so that they are always in competition with one another – every student for him/her/self. And they know they've won against their peers because they're all sorted by numbers: 2% > 1%, 3% > 2%, 4% > 3%, and so on, the higher the number, the better the child, and 100% is what everyone should strive to be. Even better if they give that 110%.*

I knock on the wall again. Tap. Tap. Tap. It's impermeable alright.

*Defending them from their own creativity, their own imagination, their own desires for explorations and different possibilities. Education is what happens inside schools. What happens outside? Well, that stuff doesn't count. Extracurricular, non-curricular. What counts is how well you do in school. Sometimes these schools will have windows, windows that look onto the world beyond the school, the garden, the streams, the forest. The children, they look outside longingly. But then the teacher goes HEY! Pay attention! Stop daydreaming! You teach them that all they could ever want to know about this big, big world can be learned sitting down, from a single person, and from books. Books that used to be members of the forest nations. But you don't teach them about that either.*

*Hey! You can't talk to earthworms! Hey! You can't talk to plants! Hey! You can't talk to animals! Hey! You can't talk to rocks! That's absurd, it's a waste of time, won't get you anywhere in life.*

*But here's my question, where in this life are you trying to get to anyway? They want you to grow up, get a job (maybe even a career), make money, and join the economy. They want you to buy! Buy! Buy! Buy this and that and cars and houses and toys and things you tinker with. You buy until all your money is gone. And then you have to spend more time to make more money so you can then buy more! Buy more! And buy more! Buying, they say, is progress. Buying, they say, will make you happy. But guess what? I don't BUY that. You become consumed by consumption that destroys the natural world. You no longer have time to take care of your relations. You cut down the forests and pollute the streams as if there were no other creatures with whom you share the Earth. You forget you have any relations at all. Buy! Buy! Buy! Me! Me! Me!*

This conversation seems to have the rhizome in quite a miserable mood. I open my mouth to say something, to console the rhizome. But the rock interrupts me.

*SHHHHH! I hear something approaching.*

**Act V**

**1. scraping**

I hear a scraping sound.

Creak.

Creak.

CREEEAAAAK.

Something scraping something that it shouldn't be scraping, emitting a rather ear-aching sound. It grows louder, it's accompanied by voices, a chanting.

## 2. paddling

*Paddle paddle paddle*

*Swooooooooosh*

(Cole, 2002)

I see an odd shape approaching me, a vessel of some sort.

*Paddle paddle paddle*

*Swooooooooosh*

*Oh dear.*

Oh dear what? The shape comes even closer. I make out the bow of a canoe. A canoe? Underground? That doesn't seem like a very good idea.

*Oh dear. Here comes trouble.*

*Paddle paddle paddle*

*Swooooooooosh*

I strain my eyes as the canoe gradually stumbles towards me. There are two beings aboard the canoe. Coyote and Raven. Coyote is at the stern, paddle in paw. She jabs her paddle into the dirt, pushes up and out, propels the canoe forward inch by inch, the bottom scraping against the floor of the tunnel.

Creak.

CREAK.

CREEEEAAAAAK.

This looks like strenuous rowing. Raven is at the bow, fishing rod in hand.

*Shhhh! Stop with that ruckus Coyote. I see something up ahead.*

*Ooh! Ooh! What do you see? I want to see too?*

*Raven takes in an excited breath of air. Psssst, it's a human! A human creature. A Western human creature nonetheless! A rarity in these parts of the world for sure. Let's approach calmly. They have a tendency to scurry away at the slightest sight of the unknown, and unfamiliar.*

I watch the two figures step out of the canoe, remove their personal flotation devices (PFDs) and come towards me. Coyote extends her paw out.

### 3. greeting(s)

*WE. COME. IN. PEEEEEEAAACE. She enunciates each syllable clearly.*

*Oh stop it Coyote! There's no need for your dramatics here. Look! You're already making the human uncomfortable. And if I know anything about their type, they very much prefer comfort over discomfort.*

I meet Coyote's paw with my hands. I realize that she has no thumbs. We agree on an awkward modified hand-paw shake.

*If I may introduce myself, I am Coyote, that's capital-C Coyote. And meet my partner in mischief, raven.*

*Hey! That's capital-R Raven for you!*

*Now, how about some Coyote games!*

*(Raven swiftly hushes Coyote's desire for games. Quiet you! Let's stick with the mission).*

Hello capital-C Coyote and capital-R Raven. Nice to meet you. What is this mission that's you speak of? And if I may ask, why you are paddling a canoe through these underground tunnels? I don't see a drip of water anywhere?

*We're out for an afternoon paddle. Nothing like an afternoon paddle to relax the soul.*

*And mind your words, there is plenty of water around. There's plenty of water in the air – humidity you call it. And there's plenty of water in the soil – that's how this Earth can sustain all the plants that you have up there. Simply because you can't see it doesn't mean it doesn't exist. There's a lot of things you humans don't see or smell or feel or taste.*

*Coyote waves her paws wildly. Exclaiming. BREAKING NEWS: the world does not begin and end with humans. Simply because you can't see it doesn't mean it doesn't exist. Like this underground world. You never would think that it existed if the rock hadn't brought you here. And you never would have spoken to the rock if you hadn't stubbed your toe on it. It's a large world, plenty of room for other worlds without stepping on each others' toes you see.*

**4. fishing**

But if I may ask, what then are you fishing for? I don't see any fish here.

*Oh human, you're making me repeat myself. Because you don't see it doesn't mean it doesn't exist. There's fish everywhere here. Only if you weren't so narrowminded. Consider the land, not only for what it is now, not only for what you can take from it. But consider it as a story, a story that happened Once Upon a Time and a story that is still happening. A story that is still being told and retold by all the beings that inhabit it, passed on from generation to generation to generation and within generations too.*

*Maybe this piece of land used to be underwater, submerged, not quite even land yet but the ocean floor. There's plenty of fish in the ocean. Maybe this piece of land used to have a glacial lake sitting on top of it during the last Ice Age. Plenty of fish in lakes.*

*Coyote waves her paws wildly yet again. Exclaiming. BREAKING NEWS: bear nation and salmon nation continue age-old agreement. Salmon eggs hatch in the river, salmon move to the*

*ocean and grow up in the ocean, eating ocean food. Then they come back to the river to spawn. Bears are waiting for them, they snatch them up and eat them. Chomp, chomp, chomp. The salmon carcasses are discarded along the river (and salmon-fortified poop too), and that in turn feeds the plants.*

*So you see, plenty of fish everywhere. Because you don't see it doesn't mean it doesn't exist.*

I try my question again. So you're fishing for salmon carcasses?

*No! We're fishing for stories!*

## 5. story(ing)

*Yup, we're fishing for stories. I'm always in the mood for a good story. And hopefully a happy and cheery one too, with all this sadness that is happening in the world these days. Like people not being treated fairly, animals being pushed into extinction, and forests being cut down. When you think about it, salmon and water are a lot like stories.*

*That reminds me of a wise saying I heard somewhere some time long ago, Raven. It went something likes this "the world is made of stories, not of atoms."*

*Exactly! Stories are exactly like salmon and water. Oh look! The human is confused. Care to do some Coyote-explaining Coyote?*

*Coyote waves her paws wildly in the air, giddy with excitement. Exclaiming. BREAKING NEWS: humans eat salmon, There are salmons in humans. Humans drink water, there's water in humans. Humans are as much salmon swimming in water as they are human. Humans are as much stories as they are anything else.*

*Hmm, all this talk about salmon makes me hungry. (Do we have anything to snack on Coyote?). Stories, says King (2003), "that's all that we are."*

I imagine my insides. Instead of the tangled knots of veins and arteries around organs that I learned about in grade eleven biology class, I imagine a body filled with water and currents and rapids and tides and salmon swimming against all of it. Perhaps when I eat, I feed the salmon so they have energy to continue swimming. Hmm, that story makes me smile. I pose another question to Coyote and Raven: I like myself a good story too. So how do you fish for stories?

*How do you fish for stories? That's a good question to ask. You fish for stories kind of like how you would fish for fish. With patience and with open-mindedness, and a deep understanding and reading of the land and sea around you. You must read the wind and the water, when the salmon will run and where they will run to.*

*But like fishing for fish, when you're fishing for stories you cannot be greedy, you cannot be selfish. And that's a lesson that many humans have forgotten. They take all the salmon, as much as they can get their hands on. And then they take away the homes of the salmon from the salmon. The forests, the bears, the rivers, the streams. They draw a map and say this is mine and that is yours, none for the salmon, none for the bears. They put in a dam so salmon can't get by. They cut down the forest so the land erodes. They build farms where the forests used to be, they bring in cattle and sheep, they bring in pesticides and other chemicals, all this stuff then washes into the river, polluting the river. Polluting the rivers and oceans and skies until there is no more salmon.*

*No more salmon, no more bears, no more rivers, no more forests. No more stories. Besides the official story of course. The official story that says that chemicals and cutting down forests are signs of progress. Signs of culture. Signs of civilization. Good for the economy. Good for the people. Good for science and innovation.*

The voices of the potatoes pop into my head. PROGRESS, PROGRESS, PROGRESS!

*And they read this story over and over again. They teach this story to their young ones so they can then teach it to their young ones. After many tellings, the young ones forget that there were ever other stories to tell. They forget that where their houses now are used to be rivers and forests and salmons and bears. All these friends, companions, wonderful and fun characters, they've been wiped out, scratched out from the story, never stood a chance when face-to-face with the editor.*

*And remember what the King once said about stories? They're all that we are. No more stories told, no more people who lived by those stories. Bye bye difference! Hello "one true story" whether you like it or not.*

A sudden sadness washes over me. But those are such nice stories!

*Such nice stories. Stories that have much to teach us, about being Raven, about being Coyote, alongside and with Raven and Coyote. About being carrots and potatoes and rhizomes; alongside and with carrots and potatoes and rhizomes. About being human and alongside and with all sorts of wonderful human characters.*

*About being part of this magnificent world!*

*But even when one does try to tell these stories, when one does try to keep them alive.*

*(And boy have we tried!).*

*Oftentimes, you realize that people don't want to listen. You can tell a story but no one wants to listen to you. Maybe because they have better things to do. Maybe because they can't be bothered, too busy with their own lives. Maybe because they're scared of your story, they don't understand it, it's unfamiliar, it's different, different words, different languages.*

*Hmm, they say. No citations, no references. No Ph.Ds. Not an expert. Hmm, they say. No white lab jackets. No experimental controls, scientific methods, no peer-reviewed, academic, published*

*articles. That must mean it doesn't matter. Hmm, talking vegetables, monsters, and robots. That's impossible.*

*(But it's not impossible! It's only impossible because they have created this boring world in which they live and in which the imagination is not allowed to run amok!).*

*There are those humans who are more open, more open-minded, more receptive. Like children. When they see a worm in a garden they're not ashamed to talk to the worm. They're not afraid to say hi. They acknowledge the worm, both for what it does for the soil and for its companionship. For being in the garden is being together. So it's not all bad news you see. Like the potatoes. Like the rhizome. Like the carrots. Like the rock. They're telling stories underground, their stories are being told underground. But they also need to be told above ground, by teachers, by gardeners, by researchers, by people like you.*

These words reassure me. What about you then? I ask curiously. Are you two down here because there's no room for you above ground?

*Oh you know, we're here and there. Raven and I, we're tricksters, shapeshifters. We can wear the skin of other creatures and then take on their forms. We play tricks and games, fun tricks sometimes but also serious tricks at other times. And because we're so tricky, we go between the two worlds. Below-ground, we are with friends and family, we walk around as we wish to. Above-ground, we have to be a bit more careful. We wear disguises, play tricks, no one suspects a thing until it's too late.*

*Hey! They say. How did I end up in this story! This isn't the story that I was taught!*

*Our work is done here we would then say to ourselves. Then we would run off and play Coyote games.*

*(I love Coyote games!).*

So are you off to the above-ground world again then?

*Indeed we are! Want to come?*

I think about the offer. My stomach grumbles. I've eaten all my snacks and gifted all my chocolate bar. Sure, I say.

*Hop in then! There's plenty of room for both you and the rock!*

I climb over the gunwales and take my spot at the middle of the canoe. Rock in hand.

*Hold on tight, it's going to be a rocky ride!*

Coyote and Raven grab their paddles and firmly thrusts them into the tunnel floor, lifting the canoe up and forward.

**6. paddling (on)**

*Paddle paddle paddle*

*Swooooooooosh*

We inch closer to the concrete wall. Creaking and scraping along the tunnel floor.

*Paddle paddle paddle*

*Swooooooooosh*

Inch by inch we m o o ve.

*Paddle paddle paddle*

*Swooooooooosh*

*Paddle paddle paddle*

*KRRRRNNNNNNNNCCCCHHHHHHHHHHHHHH.*

The canoe collides with the concrete wall. I stumble and my face collides with the bottom of the canoe. Good thing I have a helmet on. The tunnel shudders, dirt rains down from the ceiling all around us.

*Paddle paddle paddle*

*KRRRRNNNNNNNNCCCCHHHHHHHHHHHHHHH.*

Again, the canoe rams into the concrete wall. The tunnel shudders, dirt rains down from the ceiling.

*Paddle paddle paddle*

*KRRRRNNNNNNNNCCCCHHHHHHHHHHHHHHH.*

Again, the canoe rams into the concrete wall. The tunnel shudders, dirt rains down, potatoes rain down, pebbles rain down. The concrete wall shudders, pieces on the surface are chipped off.

*Paddle paddle paddle*

*KRRRRNNNNNNNNCCCCHHHHHHHHHHHHHHH.*

Again, the canoe rams into the concrete wall. The tunnel shudders. More stuff comes raining down, potatoes, dirt, pebbles, and even a twisted carrot. The concrete wall shudders. A crack forms.

*Paddle paddle paddle*

*KRRRRNNNNNNNNCCCCHHHHHHHHHHHHHHH.*

Again, the canoe rams into the concrete wall. The crack spreads and widens. Chunks of concrete come falling down. Some hit the canoe. I throw my backpack over my head and helmet, anything to save myself from a concussion.

*HEADS UP! Coyote yells gleefully, oh how much I love adventures!*

*Paddle paddle paddle*

*KRRRRNNNNNNNNCCCCHHHHHHHHHHHHHHH.*

Again, the canoe rams into the concrete wall. The crack becomes cracks. And the cracks spread further and the cracks widen deeper. More chunks of concrete come crashing down.

*Paddle paddle paddle*

*KRRRRNNNNNNNNCCCCHHHHHHHHHHHHHHH.*

Again, the canoe rams into the concrete wall. And the wall crumbles. The KRRRRNNNNNNNNCCCCHHHHHHHHHHHHHHH is followed by a low grumbling sound. A low grumbling sound that gets louder. The tunnel shudders and it begins to shake. Dirt and potatoes and blocks of concrete come crashing down. I hear Coyote's excited voice.

*HOLD ON! The foundations have collapsed! Everything is coming down!*

I curl up, hoping that I'll come out in one piece when all this comes to a stop.

CRASH!

CLANG!

BAANG!

POOOOF!

KRRRRNNNNNNNNCCCCHHHHHHHHHHHHHHH!

CRUNCH!

CRRAAAACKKK!

And then it all comes to a stop.

I whisper quietly.

Rock?

Silence.

Coyote?

Silence.

Raven?

Silence.

Carrots?

Silence.

Potatoes?

Silence.

Rhizome?

Silence.

I open my eyes and I'm hit by a sudden burst of sunlight. My eyes adjust and my surroundings come into focus. I look around. I'm above-ground again. Not far from where I dug the hole into which I then fell.

The garden is beautiful in the fading light of the afternoon sun. A sparrow lands beside me, plucks a worm up from the soil and flies off.

I look down and I realize that half of me is underground, half of me is buried, in dirt, potatoes, rhizomes, and carrots. I can't see it but I feel the sliminess of an earthworm crawl up my buried legs. I don't panic, I feel calm.

I take off my helmet to let my head breathe. A little sweaty you could say. I open up my backpack and take out my pen and notebook.

Well, time to start writing my homework then.

Stage lights fade.

Curtains drawn.

Elsewhere, a spotlight shines.

Curtains are pulled open.

## INTERMISSION

Back here again I find myself. My question returns to me: who and what do school gardens serve? A question that has led me on this fantastical journey, from the above-ground world to the below-ground world and back (well, at least mostly back). A question that has filled pages and pages of text with delightful characters and conversations and stories. But now I am faced with yet another task, how do I make sense of this story? How do I make sense of what I have learned from this story? From writing this story? From the characters written into being through the story? If you have the patience in you, perhaps we can work through this together?

# REVISITING THE QUESTION THAT I CAN'T ANSWER WITH EVEN MORE QUESTIONS

"What and whom do our school gardens serve?" is a question that is perhaps most appropriately answered not with a singular response but with the asking of even more questions. There are the questions that brought me to it and there are the questions that it has prompted me to ponder. It is a question that emerges at the confluence of "What and whom do our school gardens serve currently?" and "What and whom might our school gardens serve?" (assuming that there is a difference between the two). Timely questions, considering the wildly enthusiastic emergence of school gardens in our school yards and school gardens in our school curriculums, my own experiences included (Gaylie, 2011, Mui, 2014, VSB, 2010). And even more so, surely, as we look towards rethinking education in a world of heightened climate and environmental consciousness.

**Question number 1.1 – why do we love our school gardens?**

I shall here contend with the first question of the series: what and whom do our school gardens currently serve? What is the current state of research on school gardens? What is being said, who is saying it, how is it being said, why is it being said, and where is it being said? Particularly, how has school garden research not honoured the non-human (or even the other/ed-humans) in gardening? What assumptions have we concretized, worlds imagined to be singular and universal, technologies perfected, that exclude them, the non-humans and other/ed humans with whom we share our gardens, in fact, who make up our gardens; silence them, actively worked to violate their capacity to speak, be heard, sing, dance, mime, sway in the wind? What are the consequences of such exclusions and silences? And to follow this, why are things this way? Who

stands to benefit from such shapings of school garden research, of academic research? Who does it actually serve?

Surely there are bountiful amounts of research on school gardens out there. Books, policy reports, papers that talk about other papers; and cover a breadth of topics. They're awfully serious papers, peer-reviewed papers, published papers, legitimate papers. You know. The ones explain how the world works through the usual academic instruments. These papers have served school gardens well, announced their benefits, denounced the dissenters, welcomed the school garden into the mainstream from the margins, both conceptually and physically. They've surveyed and interviewed, they've transcribed the children's stories, documented their artwork. And all this information that have been gathered to substantiate why there are school gardens on our school grounds and why they're worth the money (see Gaylie, 2011; Thorp, 2006). The cycle keeps churning, though precariously.

School gardens, they're good for health. Children demonstrate a higher intake of fresh fruits and vegetables upon participating in Garden-Based Learning (GBL) (Graham & Zidenberg-Cherr 2005; Morris & Zidenberg-Cherr, 2002; Parmer et al., 2009). School gardens, they're good for the environment. It is an opportunity for the lessons of ecology to come to life; the garden grows food – local and organic ones too, it fosters environmental stewardship (Pudup, 2008; Upitis, 2013). School gardens, they're good for grades, when a student gets to spend time in one that is. They have been found to be accountable for the bottom-line of the education system: academic performance (Gruenewald, 2006). As Williams & Dixon (2013) highlight in their review of the GBL literature, there is a "preponderance of positive impacts on direct academic outcomes with the highest positive impact for science followed by math and language arts" (p. 211).

**Question number 1.2 – falling out of love and down the rabbit hole**

Sounds pretty enticing wouldn't you say? Yet it would at the same time be a severe act of foolhardiness to say that school gardens and the research that surround them is all good and well. To do so is to severely silence the need for critique, to silence all the possible narratives of difference that might be out there (whether above-ground, below-ground, or perhaps, in space), to establish a sense of closure that refuses discussion. So here are some thoughts, some worrisome concerns. Some tensions and anxieties that I have come across. Some ponderings on how I got myself all en(tangled) up with the likes of Coyote and Raven, potatoes, rhizomes, carrots, and rocks. Not to mention the figures that stand behind the inspirations for these characters, Barad, Richardson, St. Pierre, King, Gough, Apffel-Marglin, Haraway, O'Riley, Cole, themselves wonderful and wacky characters of the academic world.

There is a sentence in Thorp's (2006) ethnography of a school garden, and it went like this: it is "upsetting because we are torn. Torn between what we know is good for the children, for ourselves, for the environment, and for education, yet knowing full well what is rewarded in the system. The structure of the system reinforces and rewards compartmentalized academic gains, not whole person or whole community development" (p. 143). And with this sentence I tumble down the rabbit hole, hurtling towards the messy entanglements of the below-ground thinkings. Through corn and kale and squash, mathematics and literature and science, academic accountability and achievement and routine. Splatter. And thud. Winded and dazed.

It's dark down here. Dusty. Unfamiliar. Tense and discomforting. "Upsetting" you could say. Where did all those heartwarming narratives go, the latest in school garden literature? All those academic and peer-reviewed papers? Those comfortable and convenient assumptions upon which our school gardens have come to us? Wait, here they are. Still here, but they don't quite

tell the whole story or even *a* complete story. In this light (or perhaps lack of light), the gaps and cracks become apparent, the shortcomings, the ignorance, the closed-mindedness. They story a school garden whose form and function emerged from an Eurowestern system of education, a system, Martusewicz, Edmunson, & Lupinacci (2011) describe as invested in a culture of (hyper)consumption, (hyper)competition, (hyper)individualization, and (hyper)reductionism but unfortunately not in those designated as having attention deficit (hyper)activity. Narrow-minded and straightforward, this vision is undoubtedly consequential, entrenching the "patterns of domination" – those that have power and those that are denied it – as we march on in a blind pursuit of a "progress narrative" (Martusewicz, Edmunson, & Lupinacci, 2011). That is, progress, if progress is measured by our willingness to consume, exploit, and colonize. Progress that serves some and withholds service from others.

Despite all that has been said about school gardens, the good and the bad, whether it fails or succeeds within our Westernized educational imagination is ultimately determined by its capacity to be demonstrably and quantifiably "accountable" and countable (Gruenewald, 2005). Accountable to grades, test marks, invented standards, the bottom line. Accountability as "a site of social control and coercive normalization" (Gruenewald, 2005, p. 266) that is. The school garden becomes measured by the Prescribed Learning Outcomes traced out in mainstream Eurowestern curriculums, our understanding of it reduced to a single figure, whether GPA, letter grade or percentage. What is lost in this process? Who is lost? Left outside of the garden?

**Question number 1.3 – dig a little deeper, are we there yet?**

These problematic incidents persist when we move from the school garden, itself, to the broader field of environmental education. As critics have said about the field of environmental education

in general, and as I have come across in my own readings of GBL in environmental education, "one is struck by the lack of effort to make explicit the theoretical frameworks of the studies. Indeed, it seems questionable whether most researchers in environmental and ecojustice education are aware of the contested nature of epistemology in the wider field of educational research" (Gough, 1999, p. 38-39). Research on/in/with school gardens has taken much of its epistemological and ontological theorizing for granted – inherited and replicated – leaving much terrain unchallenged or unchallengeable, left fallowed and untilled.

Even as gardens are being touted as spaces for newness and innovation to enter the schoolyard and the curriculum (Martusewicz, Edmunson, & Lupinacci, 2011, Louv, 2005), the research and the processes enacted to make these remarks are often of the conventional and mechanical kind. They do not invite garden voices but stay devout to their habits of academicspeak. They are faithful to the scientific method, to experimental controls and replicability; to the building of generalized frameworks and metanarratives while gsazing disapprovingly at local and localized tales. They reflect a longstanding – and not inconsequential – commitment of the academy and of academic research in the field of education, to Boylean technologies of inquiry: material, social, and literary (Apffel-Marglin 2011, Shapin, 1984). In his seventeenth century observations on the behaviour of air, Robert Boyle and the technologies that he invoked not merely contributed to the database of scientific knowledge but legitimized which methods are and are not suitable for generating and evaluating knowledge (Shapin, 1984). And such conventions persist, dictating the technologies that alone are capable (and if so responsible) for the generation of "matters of fact."

Material technologies meant the access and use of instruments external-to-the-human-body. Or the preferring of these apparatuses to conduct our inquiries as opposed to those

internal-to-us instruments such as our abilities of observation, our ritualistic performances, our ceremonial practices, languagings, conversations, journeys and adventures. In these external attachments – as emotionless, unspiritual, unreligious, bodiless, and undistracted by myths and fictions and social interactions as they are – a condition is assumed wherein a universal objectivity emerges (Apffel-Marglin, 2011, Shapin, 1984). At the same time, not only do material technologies mark the parameters of what can give rise to science, knowledge, and "matters of fact," they secure these boundaries from those who cannot access these technologies. For Boyle, this may refer to the "alchemical secretists" and "secretarian enthusiasts" who mused away in their basement laboratories. But when applied to the school garden, this "who" becomes parents and teachers, students, the non-humans – or to put it more bluntly, those not wealthy enough, who do not have the means, the language, enough years on their life yet, to tinker around with "elaborate experimentation" (Shapin, 1984).

Social technologies deemed who can bear "modest witness" to these material technologies (Apffel-Marglin, 2011; Haraway, 1997). And by that we mean humans. Humans but humans-qualified. Eurowestern-privileged-men-*Homo sapiens*. As for the others? "Those who have been much burdened and even violated by the language and practice of humanism, those who have been locked in painful categories and trapped on the wrong side of the vicious binaries" (St. Pierre, 1997, p. 176): white/black, male/female, abled/disabled, intellectual/ emotional, rational/irrational, and on and on (Martusewicz, Edmunson, & Lupinacci, 2011)? No such luck. And don't even get me started on the non-humans – the natural world, the spirit world, the plant world, mineral world, and our recurring and always mouthful rock – who possess not forethought, language, vision, nor imagination; nor "agency" as the literature calls it (Nash, 2005).

And then we have Boylean literary technologies. Literary technologies dictate how findings should be conveyed to "non-witnesses," that they should be written in "objective style" (Apffel-Marglin, 2011, p.84), a direct translation of the data spat out by material technologies and witnessed by social technologies. The purpose of such was to represent perfectly the material technologies that took place so that they can then be abstracted and witnessed virtually (Shapin, 1984). Taken together, not so much are these material, social, and literary technologies "technologies of inquiry" as they are technologies of control, exclusion, reduction, standardization. Authorizing the who, what, when, where, why, and hows of research; offering agency to some and depriving it from others; firming up a dichotomous organizing of the haves and have-nots; "ensuring that heterogeneity, questioning, and resistance disappear" (O'Riley, 2003, p. 62). Indeed, silencing dissent "before the analysis ever gets off the ground" (Barad in Apffel-Marglin, 2011, p. 61).

**Question number 2 – moving on now, how do we move on?**

Carrying out research in this way is to carry out research that controls, polices, and excludes. But to this thought, the bulk of school garden research has exercised a willing dismissiveness, containing itself—priding itself—on the parameters of being human and being academic, of being anthropocentric. Brazenly, many academics who perform school garden research march around, pen and paper in hand, taking samples, busily scribbling down notes, proclaiming this and explaining that – "under the delusion that we are each a kind of "solitary knower" – that we exist as rootless intelligences without layers of localized contexts...a "self" and the "world." In this, there is no real recognition that grandparents, place, grammar, pets, friends, lovers, children,

tools, the poems and songs we remember, are what we think with" (Snyder, 1990, p. 77). Not to forget the rocks, carrots, rhizomes, coyotes (and Coyote), ravens (and Raven).

Perhaps it's time now for a different story, an unfamiliar story? A story that starts a bit differently; written with different technologies; and is a bit different all the way through. Not necessarily "new" but "re-new-ed," "re-knew-ed," regenerated (Apffel-Marglin, 1998). Instead of an anthropocentric one, what about a story that takes place in a different world revolving around different creatures. Perhaps, as Apffel-Marglin (1998) describes, ones that "come into being through the action of the sun, the moon, the soil, the constellations, the winds, the waters, the seeds, the plants, the insects, the birds, the tools, other animals, the actions of humans and so forth" (p. 16). Worlds in which we, as humans, are embedded and respectful participants of this broader "web of community obligations" (Apffel-Marglin, 2011, p. 37). Where to "become one is always to become with many" (Haraway, 2008, p. 4). A story not lectured about but shared with one another on a sunny patch of lawn? Hopefully with snacks too.

It is when we – teachers, researchers, even students – retrace how the school garden came and is coming to be, to consider its ontological and epistemological origins, that we are confronted by such tensions and such discomforts. Not that because the garden is a new and unfamiliar sight to teachers, but because it subjects us to ask questions that we have so long forgotten to ask, to prod and poke mysteries with no particular intention to "solve" them, to disrupt our attraction to a Eurowestern system of education by introducing new characters, storylines, and plot twists.

This brings me to my second research question. Whom and what should school gardens and the learning that occurs in them serve? How and with whom can we conduct school garden research in a manner that *does* serve this "web of community obligations," a community that

includes beings of human and non-human varieties? My proposed response is a simple one: with the not-so-simple and certainly not-so-straightforward act of listening closely and waiting patiently for your turn to speak. As in having meaningful and heartfelt conversations with our peers instead of turning a blind eye and disapproving ears towards those who do not comply with our humanly ways (Apffel-Marglin, 1998; Bell & Russell, 2000). Or as Fawcett (2000) describes, to regard research as "reciprocal knowledge-making," as sharing thoughts, concerns, and experiences within species, across species, and despite their designation as a certain species. In these conversations, in these acts of respect, reciprocity, and regeneration, can we teach ourselves and be taught by others and those who have been other-ed to live in the middle of things (St. Pierre in Gough, 2010), "in the tension of conflict and confusion and possibility" and to "become adept at making do with the messiness of that condition and at finding agency within rather than assuming it in advance of the ambiguity of language and cultural practice" (p. 55).

They are conversations that we might have because we have turned away from Eurowestern and Boylean technologies. Because we have turned away from an obsession with metanarratives and "one true stories" and considered the onto-epistemological joys and gifts of immersing ourselves in fiction(s), in the possibilities of plurality. Fiction, Gough (1994) writes, "can function as a "diffracting lens" for the "narrator's eye" and thus help us to generate stories which move educational inquiry beyond reflection and reflexivity" (p. 48) and towards "making a difference in the world" (Haraway in Gough, 1994, p. 48).

To trade in technologies of exclusion for all the technologies that such technologies have worked to exclude. Technologies of becoming instead of technologies of being and being stuck in what one has been labelled. Mapping and orienteering technologies, those that suspend our conviction to being on track for one that honours the pedagogical opportunities of "getting lost"

(Lather, 2007) in our "web of community obligations" (Apffel-Marglin, 2011, p. 37). A cross-species medium of communication that can put meows in conversation with barks and human-made languages and grammars. A "noise" de-cancelling headphone that foregrounds what was once background "noise." A methodological headlamp that illuminates our ontological and epistemological assumptions (but one that is not so bright that it interrupts others). A practice of language that is imaginative, boundless, unrestrained. Modest and forgiving. A hug. An embrace. And let me assure you, not so darn boring for the unfortunate reader who comes across it.

These are the technologies that I attempted to enact in the story presented above, All (en)Tangled Up – the joys of "getting lost," a modest headlamp that illuminates without blinding, the bolding of backgrounded voices, and by some miraculous and – unbeknownst to myself – means the ability to speak to my non-human companions, co-journeyers. And these are the technologies that I imagine for a different and accidental method/ology for conducting research on school gardens. Where methodology – "a theory of how inquiry should proceed" (Glesne, 2011, p. 282) – and method – the tools of procedures that generate the data (Glesne, 2011) – are inseparable and inseparable from the ontologies and epistemologies (or onto-epistemologies) that they inhabit (Kaiser & Thiele, 2014). In being so, they come together to form what I imagine to be a method/ology.

Taking such a possibility further, this is a method/ology that positions the world(s) wherein we perform our research not as set "before the analysis ever gets off the ground" but as being up for debate and disagreement. For diffraction, where diffraction implies difference in an un/de-Eurowesternizing sense; looking past a world concerned with binaries, hierarchies, and disparities of power. To borrow from Haraway (in Kaiser & Thiele, 2014), in diffraction, we turn from "oppositional to differential, from static to productive, and our ideas of scientific

knowledge from reflective, disinterested judgement to mattering, embedded involvement" (p. 165). This is my "shaking of the tree" (Gough, 2006). To take research methods and research methodologies and to make it into something, well, unmethodical. Complex, messy, troublesome, uncertain. Turn it from mandated procedure to imaginative experimentation. Awkward, stumbling, spontaneous, accidental, unsure of itself, tentative, shapeshifting (Gough, 2010); restless, spontaneous, welcoming different voices and different ways of speaking and languaging, uncountable, unquantifiable.

## PIECING TOGETHER AN *ACCIDENTAL METHODOLOGY*

Therein rests the words that capture the sentiments and sensibilities from which *All (en)Tangled Up* emerged. Story as an awkward, stumbling, tentative, accidental, and shapeshifting mess. But as I converse with the characters I meet along the way, the rocks and the carrots, the rhizomes and the tricksters; there is a simultaneous conversation happening between myself and academic scholars and their theories. A simultaneity of events in place/time. Two strains of conversations that intersect at times and diverge at others, mutually shaping each other into the words that I put out on paper. These scholars and theories are the mysterious figures that appear in the story as I reflect on the working through of a Masters, figures that "never used to be there," figures that had not enter my imagination of what a school garden could become. But it is by approaching these figures, even if hesitantly, that we as school garden researchers and activists can truly shake the grounds on which we have built our school gardens. And over and over again the figures make their presence known in my story, whether I would like them to or not.

### Piece number 1 – a world I can barely understand

I draw upon Karen Barad's theory of agential realism as an inspiration for the onto-epistemological landscape I present here. Agential realism, she writes (in Apffel-Marglin, 2011), "is not a fixed ontology that is independent of human practices, but is continually reconstituted through our material-discursive intra-actions" (p. 59). That is, subjects that do the observing and objects that are observed – or to return to the school garden, a relationship that is conventionally defined as the human actors and the cultivated other/ed – are not pre-given nor universal designations. They have become so through their material-discursive intra-actions, through language, labelling, and naming. Resource, food, and prescribed learning outcomes come from

the garden, all of which stands to be harvested by the Boylean technologies of human agency, intelligence, and rationality. These are the discursive labels that GBL has had a tendency to assign to those that are encountered in the school garden. And they are not benign labels, but are implicative ones that condone hierarchies and relationships of power-over, over nature, over non-humans, over children and over those who are supposed to be there to learn with and from their teachers (Martusewicz, Edmunson & Lupinacci, 2011).

Agential Realism disorders and disrupts these labels. It casts doubt and ambiguity on what may have been considered universal assumptions and offers other/ed ways of organizing the world(s), through other/ed technologies. While Boylean technology might purport to understand the world through distancing – through a "disentanglement of the individual from a web of community and spiritual obligations" giving rise to "the individual subject acting on the basis of his perceived self-interest" (p. 37) – Agential Realism brings together worlds through (re-)entanglings. The categories of subject and object lose power, and so does the notion that humans alone – through their languages and technologies – call the world into being. Instead, humans become entangled in a phenomenon that Barad (in Apffel-Marglin, 2011) calls "quantum wholeness" with the world(s) of the non-human and more-than-human, wherein all participate as "part of the world in its open-ended becoming" (p. 61).

What is of utmost relevance to my own work is how the notion of agency becomes re-imagined in such an agential realist ontology. "According to agential realism," Barad (2000) writes, "agency is a matter of intra-acting; it is an enactment, not something someone or something has. Agency cannot be designated as an attribute of "subjects" or "objects" (as they do not pre-exist as such). Agency is about the possibilities and accountability entailed in refiguring material-discursive apparatuses of production, including the boundary articulations and

exclusions that are marked by those practices" (p. 237). Agency becomes a human responsibility and accountability in creating the world wherein they exist, "we are responsible in part for what exists not because it is an arbitrary construction of our choosing, but because agential reality is sedimented out of particular practices that we have a role in shaping" (p. 237).

This drastically opposes longstanding traditions in academia of equating the non-human with the non-agentic, that "although nature may resist and complicate human actions, producing all sorts of unintended consequences, nature has neither the intentionality nor the choice that humans do. Nature may constitute a dynamic structure, but it is not an agent. Human beings alone are the motors of history" (Nash, 2005, p. 67). Agential realism steers us away from such humanist arrogance, away from our Newtonian-Cartesian universalizings of the universe, away from writing and researching in unbounded Boylean glory (Apffel-Marglin, 2011).

Away, apart, and together again in conversation. And there is much to talk about – not talking for, talking down to, talking over but talking with – with agency-bearing yet non-humanly companions. Russell (2005) writes, "other beings are likely not remotely interested in our research and writing, busily getting on with their own existence" (p, 435). There are no rock scholars, worm scholars, spider scholars, plant scholars, spirit scholars. Or at least not scholarly in an academic sense. However, if researchers no longer content themselves (and I, myself) with the assumption of a agency-less nature, things are the way they are not necessarily because a rock or a worm has nothing to say, nothing to tell us – but that the academy has not yet extended an invitation, considered the thought of collaboration, or considered them even as those with whom interactions may be possible. Maybe when the rock presents itself in all sorts of situations for toes to be stubbed on it, it is not merely a culprit of where it has been placed but is sending out a cry for attention. "What about rocks!?"

**Piece number 2 – what about rocks? Honestly? I have no idea**

What about rocks you say? I draw upon posthumanist scholars to provide context as to where the academy is in terms of welcoming the non-human into humanly conversations. As Russell (in Kuhl, 2011) suggest, the intention of posthumanist research is to generate "research representations which, in their multivocality, create spaces for the "voices" of "nature" to be more audible, and in their polyvocality take into account our own animality, and in doing both, trouble the "nature"/culture divide" (p. 110). In this way, posthumanism is positioned as a manner of speaking back and speaking against conventional stories that are mired in anthropocentric and hierarchical thinkings (Martusewicz, Edmunson & Lupinacci, 2011).

This is much of what Apffel-Marglin addresses in her book, *The spirit of regeneration: Andean culture confronting Western notions of development* (1998). Of how in their rituals and ceremonies the Indigenous peoples of the Peruvian Andes entangle the human and the non-human. And in doing so, regenerate the knowledges and technologies of a "livable common world, both within and between worlds" (Apffel-Marglin, 2011, p. 159). Beyond the Andean perspective, other Indigenous scholars organize their worlds in such a manner, that "habitats and ecosystems are better understood as societies from Indigenous points of view, meaning that they have ethical structures, inter-species treaties and agreements, and further their ability to interpret, understand and implement. Non-human beings are active members of society. Not only are they active, they also directly influence how humans organize themselves into that society" (Watts, 2013, p. 23).

Unfortunately, while gracious, these intentions are oftentimes fraught with ambiguity. What do these "spaces" look like? What do these "voices" sound like? How might audibility be

measured? In decibels? In hertz? In birdsongs? Whalesongs? In *Seasons of Love*? And what does it even mean to be "audible"? Audible or understandable? A dog can bark loudly, but is that a noise complaint or the makings of an intelligible conversation?

Here I find it helpful to return to Barad and how agential realism's might provide an ontological framework for encountering a posthumanist understanding of the world or of worlds and of words. As Vicki Kirby (in Kaiser and Thiele, 2014) writes of Agential Realism, "the very ontology of the entities emerges through relationality" (p. 166). The world(s) come to be not through the gaze of a single species but through the complex and delicate dance that goes on between many. With certain instruments of observation – say the sense of touch, or vision – the earthworm is brought into the world of a child who digs furiously in a patch of moist soil. But in the same way, the child is brought into the world of the earthworm, who might sense changes in light, in moisture, shifts in the surrounding substrate. For this thesis, I hope to collapse the onto-epistemological borders that hold these worlds in place, that hold them separate. To collapse them and to live in the "middle" of things, of the rubble and the debris, wherein contradiction and opposition might have an opportunity to have a conversation and perhaps to piece things back to something different together. Something that might allow the realization that "the land cannot be land without our actions...as we cannot be humans without the land's actions" (Apffel-Marglin, 2011, p. 63). With this in mind I turn towards stories.

**Piece number 3 – complicating stories and making complicated stories**

I draw upon a selection of practitioners of narrative theory. Specifically, Knoespel's (1991) suggestion: what happens when we "think of all discourse as taking the form of a story" (p, 101)? School garden research as it is now is the same story told over and over again, in content

and in shape. And boy it's one darn good story wouldn't you say? They're good for grades, good for the environment, good for health, and, needless to say, good for the researchers who produce them. A good story with tidy ends and clear and concise (and certainly familiar) wording. What's wrong with this is that this story has come to be regarded as the "one true story" for school gardens. And by virtue of being "one" and "true" real-world(s) complexities (and possibilities) become mute in our longings for metanarratives that "nevertheless turn out to give only illusion of mending our fragmentation" (Knoespel, 1991, p. 101). The academy strikes (back?), with its Boylean drones and Cartesian stormtroopers, universalizing and standardizing all those who might not conform to the tendencies of dealing with empire.

Narrative theory, as I interpret it, asks us not merely to consider our garden experiences as stories but to consider them as one story amongst a whole host of stories and of possible tellings and re-tellings of these stories (Gough, 2010). Metanarrative desirings are replaced by different and other/ed narrative desirings. By a sort of "bag-lady" storytelling practice wherein "the stories do not reveal secrets acquired by heroes pursuing luminous objects across and through the plot matrix of the world" but would instead "proceed by putting unexpected partners and irreducible details into a frayed, porous carrier bag" (Le Guin in Haraway, 2008, p. 160). These sorts of stories "encourag[e] conversations, the encounter transmutes and reconstitutes all the partners and all the details. The stories do not have beginnings or ends; they have continuations, interruptions, and formulations" (Haraway, 2008, p. 160-161).

Away with this old story that does me no good! Beyond asking teachers and researchers to reconceive their knowings as stories, I apply narrative theory in hopes of disrupting academia's conventional notions of fact and fiction. As Gough (2010) puts it, "although it is defensible to assert that reality exists *beyond* texts, much of what we think of as "real" is—and

can only be—apprehended *through* texts. What is at issue here is not *belief* in the real but confidence in its representation." (p. 336-337). "The world is out there", Rorty (1989 in Gough, 2008, p. 337) writes, "but descriptions of the world are not." That is, all discussions of whether there is a fixed real-world out there aside (which as agential realism argues, there certainly is not), much of what we know and experience of this world comes to us mediated textually or intertextually (Gough, 2008), through conversations and listening and overhearing. Because of this, the world(s) is/are approximations fashioned to serve certain desires and should be taken as such: with an appropriate amount of distrust and scepticism. Stories are not resolute **n**or do they conclude, they are "tentative" and "emergent" (Gough, 2010, p. 47).

My intent for drawing on narrative theory is to see myself and those whom I hope to converse with as what Haraway (in Gough, 2008) writes, "actors in a story-telling practice" (p. 337). This is to say that fact and fiction, as I understand them, are not mutually exclusive but mutually constitutive. As subject and object become entangled in a mess of intra-actions according to an agential reality, we might think of facts as the stuff for stories but they themselves are given meaning by the stories that we tell of them, through them, and with them. Fiction becomes no longer the lesser, the made up, the imagination of children. Fiction becomes powerful. As Le Guin (in Gough, 2008) writes, "fiction in particular, narration in general, may be seen... as an active encounter with the environment by means of posing options and alternatives, and an enlargement of present reality by connecting it to the unverifiable past and the unpredictable future. A totally factual narrative, were there such a thing, would be passive: a mirror reflecting all without distortion... but fiction does not reflect, nor is the narrator's eye that of a camera... fiction connects possibilities... and by doing so it is useful to us" (p. 338).

**Piece number 4 – now let's have some fun shall we?**

And I draw upon the field of ecocriticism, ecopoetics, and children's environmental literature for the shaping of my own thesis. It is my attempt at avoiding the irony (or is hypocrisy the more appropriate word here?) of conversing un-academically academically. As Fischer-Wirth & Street (2013) write in their introduction of *An ecopoetry anthology*, "we've become ever more convinced that the environmental crisis is made possible by a profound failure of the imagination. What many humans in mainstream Western cultures seem to disregard or fail to know and grasp, is it is easy to destroy: a mountaintop, a coral reef, a forest, a human community. Yet poetry returns us in countless ways to the world of our senses...awakening our dulled perceptions and feelings" (p. 6).

This revisioning brings academic research back from the precipice of academic absurdity, of scholarship that has ascended (or is it descended) to a state of being "scholarly to the point of being unaware of the outside world" (Waage, 1985, p. 8). It brings academic writing back from writing about research is a manner that is "stifl[ing] from the outset, operating within a problematic acculturation and anticreativity" (Honan & Bright, 2016, p. 731). And it brings those who do research back into a place that is safe and that is caring, a place where we can share, converse, and love (Garrard, 2007, Garrard, 2010). As Terry Tempest Williams (in Dunlop, 2002) writes,

> It is time to take off our masks, to step out from behind our personas – whatever they might be: educators, activists, biologists, geologists, writers, farmers, ranchers, and bureaucrats – and admit we are lovers, engaged in an erotics of place. Loving the land. Honoring its mysteries. Acknowledging, embracing the spirit of place – there is nothing more legitimate and there is nothing more true. That is why we are here. It is why we do

what we do. There is nothing intellectual about it. We love the land. It is a primal affair (p. 22).

My personal cultivation of these literary expressions comes in the form of a children's story, littered with all the colour and characters that have for so long been barred from the academy. It is to address this "failure of the imagination" with and alongside those who make real worlds of pure imagination, children. From Mary Wollstonecraft's (1791) *Original Stories from Real Life to* Dr. Seuss's (1971) *The Lorax,* environmental children's literature has offered us such valuable lessons in perceiving the human to non-human relationship, that it is "not merely to respect the powerless but to emulate nonhuman nature as an example of compassion and harmony and as a means to interrogate and critique social values" (Sigler, 1994, p. 149).

My work here is a protest on behalf of these ideas and practices, to say that telling a children's story is not to tell an inferior story, reduced for the purpose of accessibility (Gough, 1999). That children and their stories can and should become agents in the (re)generation of the world wherein we live and know, that research comes not before the story but from, with, within, as, and alongside the story. That the story provides the arena for curious and adventurous experimentation – for journeying and conversations (Gough, 1999). I am not writing a children's book about an accidental method/ology. I am stumbling, and I have stumbled, my way upon these method/ologies in the scripting and sculpturing of a children's book. That what these other/ed beings might have to say is not a "lesser" version of "accurate knowledge" that adult humans perpetuate (Gough, 1999, p. 42-44) but different and diffractive knowledges that dance around in a different ontology. As Gough (1999) writes, "we adults cannot and should not expect children always to participate in our "enlightened" discourses – of science and technology,

consumerism and conservation – for they rather more than many adults, are often only too happy to mobilize the language of myths, fables, and fantasies" (pp. 42-44).

It is to practice what Richardson (2008) describes as "writing-stories" and what Gough (2006, 2008) calls "narrative experiments," that "writing is a method of discovery, a way of finding out about yourself and your world. When writing as a *method,* we as academic researchers experience "language-in-use," how we "word the world" into existence...and then we "reword" the world, erase the computer screen, check the thesaurus, move a paragraph, again and again. This "worded world" never accurately, precisely, completely captures the studied world, yet we persist in trying to unite them. Writing as a method of inquiry honours and encourages the trying, recognizing it as emblematic of the significance of language." (Richardson in Gough, 2010, p. 49).

It is to return to an earlier question, one that I asked before I dug out this rabbit hole: who and what do (and should) school gardens serve? *I want my research to serve gardens and their inhabitants.* To extend an invitation to those who might have been once excluded from the realms of "research." The teachers, the students, the parents, the neighbourhoods, the earthworms, the pollinators, the microbes, the soil, the plants, the Lorax and the Truffula trees. And rocks. Those who may not be so fond of academicspeak, of proper grammar and punctuation and paragraphs. Those who appreciate an off-normal font, arranged in odd patterns, maybe a made-up word here or there where current words don't quite cut it. Those who want a bit of colourful pictures, because who doesn't like a colourful picture? (Cole, 2002). And yes, perhaps every so often, the odd academic who finds him/her/self standing in gumboots in the middle of a plot.

**Piecing together something of a thesis**

These are the pieces that I bring together, and with them I piece together an *accidental methodology,* assembled haphazardly by st-st-stuttering, stumbling hands. What has come about is a story of surprises and unexpected encounters in the garden, a story that happens in many gardens, above-ground and below-ground. In these places, I grow theories and stories together, holding one up to the sunlight (or perhaps against the glow of my headlamp) so that I can see the uneven perforations along the edges, the peculiar shaping of the carrots, the unruly rhizome. Then I do it again, and again, and again with all the other pieces. Some of them nestle in nicely with others. Others do not. Others I try to cultivate together but they always fall apart, inconsolable. Oh well. An *accidental methodology,* my accident(s), is not so much a product packaged and shipped but a moment of experimentation left unfinished, perhaps like a rock left in the middle of a garden path, another accident-in-waiting, waiting for a toe to be stubbed. It is, in the spirit of Deleuze and Guattari (in Gough, 2008), a rhizome. "Make a rhizome. But you don't know what you can make a rhizome with, you don't know which subterranean stem is going to make a rhizome, or enter a becoming, people your desert. So experiment" (p. 342). Well, Drs. Deleuze and Guattari, if you say so.

## INTERMISSION

I look around me, above-ground but not entirely. The earthworm has left me alone now. Wait, wait, wait. Hold on a moment. What about you? Are you still with me? Not fallen asleep now have you? Have I mumbled too many lengthy academically-appropriate words in my attempt to feign intellect? Have I made you another victim of academic-droning-on-and-on-and-on-ness? But don't you want to hear all about my exciting experimentation?

How do I experiment? There's not a test tube in sight, nor a beaker nor a pipette, not that I would know how to use any of this equipment. I rummage through my backpack: an empty lunchbox, wrappers that formerly belonged to a chocolate bar, clumps of dirt, AHA! Here's something I could use, a pen and paper. A pen and paper for some writing and recording, for some note-taking and some thought-making. To make sense of this story that I've told here, to analyze it, reflect upon it, engage with it – you know, all the things that students are asked to do.

A shovel into the mind, and a shovel out of the mind. What does each shovelful bring out? Uncover? Harm, damage, kill? Stories, memories, thoughts, gardening techniques and formulas that I've picked up along the way. The more I dig, the more I pile these thoughts and stories and memories around me. The mounds grow, grow, and grow. Not digging out but perhaps digging in, not uncovering but covering, not revealing but hiding.

Stage light fades.

Curtains are drawn.

Elsewhere a spotlight shines.

Curtains are pulled open.

## EPILOGUE 2.0 [1]

Nope, I'm still here. My thoughts still puttering about in this half above-ground and half-below ground space. Drawing and opening the curtains doesn't change the fact that I'm still here. The stagehands didn't change the set. Maybe they forgot. Maybe they were told not to. Maybe they all went out for coffee breaks during the Intermission and never came back. The sun continues its gentle pace across the sky. It's darker now, chillier, reminds me of the time I spent below-ground. And if I'm here any longer, I might catch a cold.

The conversations and encounters of the day continue to dance around in my mind. How do I make sense of them? Of the rock, the carrots, the rhizome? Of Coyote and Raven? Of a canoe being paddled through an underground tunnel? I look through my notebook, at the notes that I've taken. How do I make sense of them? My handwriting is hard to comprehend. The letters drift all over the page. They're crooked. Indistinguishable scribbles at times. At times they trail of the lines, off the page entirely. It must have been hard to take notes while crawling, and squinting underneath the dim glow of my headlamp. I flip through the pages over and over again, trying – hoping – to make sense of them, that some sense will jump out of the page and into my brain.[1]

[1] [1] This is Epilogue 2.0 because Epilogue 1.0 wouldn't do. 1.0 was wrought with scholars and theories and citations as I attempted to make sense of the story that I tell in this thesis, *All (en)Tangled Up.* 2.0 is quite different from its predecessor. It came about through comments that were made to version 1.0. These comments revealed that I distrusted my readers and their ability to take my story and make it their own. By making sense, I closed my story for further interrogation, I pruned the rhizomes, disrupted the underground network. In 2.0, the hope is not to make sense, to define "sense," but to invite the reader to join the conversation. 2.0 returns to the storytelling format that I previously used. It brings back characters with whom I engaged – carrots, Coyote, and Raven. And it leaves blank spaces that have yet to be mapped.

A sudden sound interrupts my thinkings. Voices off in the distance. Approaching. Accompanied by the pitter-pattering of feet. Children perhaps? A family coming for a late-afternoon garden tending session? What an odd sight they'll think this is. An adult half-buried in the garden soil. How did you get there? They might ask. I dug a hole and I fell in, I would answer. And then they would look at me with even more confusion. Or maybe it's a coyote strolling through, seeing what's available for eating in the garden tonight.

Pitter, patter, footsteps splatter.

Coming closer

And closer

And closer

And closer.

Shadows come into view. Then the figures behind these shadows. No, not children nor their adult companions. They're far too short, and one seems to be walking on four legs. On top of that, they seem to be dragging a canoe with them.

*Ahoy there my fair human companion! What a pleasure to run into you again!*

No, not children nor their adult companion. No, not coyote but capital-C Coyote, closely followed by Raven. And of course, their canoe. Not paddling this time but portaging. I wave back to them. Looks like hard work, portaging that canoe all the way through town.

*You bet it's hard work. Especially when you must make do without the privilege of opposable thumbs.*

So why not paddle?

*Because that's not how things work above-ground. You should know this. The roads are for wheels, not for paddles. We try to paddle but the cars that go zipping by, big ol' shiny, oversized SUVs, honk their horns. GET OFF THE ROAD! They'll say. They pass by so close, the hairs on my coyote chinny-chin-chin are startled.*

*My feathers too!*

*So then we thought, maybe we can paddle on the sidewalk?*

*And we tried that. Didn't work. The pedestrians didn't like us being there. Paddle paddle paddle swoosh. KRRRRNCH, as the bottom of our canoe grinds against the sidewalk. Too much of a ruckus, too strange of a sight to behold. Hey you! They'd shout, go find some water! Sidewalks are for walking! (Oh, and all this time I thought they were for siding).*

*What other options do we have? Portaging of course. Carrying this canoe on our backs and wings and paws all the way through town.*

A frown comes across my face. Hmm, that's no way to treat visitors.

*Oh, it's nothing new. Things are done a bit differently up here I suppose.*

Coyote and Raven plop their canoe onto the dirt, raising a cloud of dust into the air. Cough, cough, cough. I dust myself off.

*Enough about us. What about you? Still in this hole aren't we?*

Well, there's a simple explanation for that I suppose. I haven't moved because I couldn't, I was stuck and still am, couldn't dig myself out. So I figured, why not make the most of this situation? Maybe I should stay here for a while, it is awfully nice, quiet and sunny. A place fit for some serious thinking (too bad I can't pace, pace, pace when I'm in this hole, hole, hole), for some making sense of all that I came across and what I heard and who I heard from. Review my notes, write down my thoughts, and have it published. You know, the usual protocol.

*Coyote waves her paws wildly. BREAKING NEWS: human tries to make sense of what he doesn't understand. (Actually, that's not breaking news at all, not even news. Olds I should call it, BREAKING OLDS: human tries to make sense of what he doesn't understand). Human gets lost but now wants to be found, he found strangeness but now wants to make it familiar. He meets odd characters but now wants to broadcast them all over so they're odd no more.*

*Oh dear!*

What do you mean "oh dear"? Is this not what I am supposed to do? Am I not supposed make sense of things? To analyze? To critically engage? To reflect upon my experiences so that I might learn from them?

*BREAKING OLDS: human tries to reflect on his/her experiences. Reflect! Reflect! Reflect! They say, like it's some sort of magical word, some mystical spell that grants them instant knowledge. They look into the mirror and see themselves. Reflect! Reflect! Reflect! Coyote's waving becomes even more vigorous, more animated, more exasperated.*

*Raven interjects. Have you ever considered that by reflecting, you only see more of the same?*

*You see yourself in the mirror, and that self sees another self, and then another self and another and another. As Thomas King might say, it's selves all the way down.*

*And where does that get you?*

*Inside your own head of course! Or trapped inside a mirror like Alice!*

But then, how would I demonstrate my learning, my development as a student? How would I demonstrate my "mastery" of the subject matter?

*Coyote paws at the hairs on her chin. Hmm, how do I go about explaining this. Hmm. Who could explain this best? Hmm. Then she walks over to the patch of garden where the carrots are planted and digs out a paw-full of them. She comes trotting back with them, there's the straight ones, and also the bendy and curvy ones, the orange ones and the brown, purple, and oddly coloured ones.*

Uh oh, I think to myself. And for the second time today, I am barraged by a chorus of annoyed carrots.

*Reflecting!*

*Reflecting?*

*Oh, surely a word muttered all too often.*

*Reflecting?*

*Reflecting!*

*Have you not learned anything in your time spent down below-ground?*

*When you reflect and analyze and then write it all down.*

*You're tapping your reader on the shoulders (if they have some) and saying: Hey! You over there!*

*Yea you! I'm talking to you!*

*Shut up and listen here.*

*You speak to them as though they couldn't speak for themselves.*

*Nor think for themselves.*

*This is how you read these words, these sentences, this writing, you say.*

*Not say, you DEMAND!*

*No, not that way, this way. My way.*

*I'm the author and I know best.*

*And I don't trust that you're intelligent enough to figure it out yourself.*

*So here, some instructions, some directions.*

*You're welcome, thank you very much.*

*And that's the end.*

*End of the story.*

*Goodbye, nothing more to add.*

*You talk about rhizomes and rhizomatic ways of knowing.*

*You make a rhizome and then you get scared of it.*

*You're scared that it'll get out of control.*

*That it'll take over your garden.*

*That it'll make everything different and unfamiliar.*

*BOO!*

*So you try to control it.*

*Restrain it.*

*Restrict it.*

*Suffocate it.*

*Dig a trench around the rhizome.*

*Sever its network of stems.*

*Fill the trench with sand or concrete so that it can't spread anymore.*

*Raven chimes in. Oh dear. Now you've got these carrots all worked up.*

*BREAKING OLDS: human reverts to longstanding and undying tradition of the "one true story." You'd think they'd learn, but no, they seem rather stuck in their ways, like how they're stuck in this hole. They revert to their lecturing, their telling, their demanding – their speaking for instead of conversing with.*

*A story is not definite. It is open-ended, tentative, shapeshifting. You can't very well make "sense" of a story because sense shifts and moves and takes on different forms for different people, including rock people, carrot people, rhizomatic people, potato people.*

*Stories should incite discovery.*

*Not closure!*

*Stories should incite possibilities.*

*Not restrictions!*

*Stories should invite agency.*

*Not conformity!*

*Is there a "right" way to read a story and a "wrong" way to read a story?*

*Stories should ignite curiosity!*

*And interaction!*

*And play! Can't forget about playing.*

*Tell a story and then set it loose.*

*Let it roam and wander and stumble and stutter.*

*Trust your readers to give it a good home.*

*Trust others to be responsible with it.*

So you're telling me I should keep my mouth shut. I've told my story and now it might be my turn to listen to other stories? To listen to others tell and retell my story?

*Yes, yes, yes. That does seem to be the case, a course of action that could be taken. An alternative protocol to the one that you're used to.*

*Listening instead of talking.*

*Listening instead of blabbering on and on, leaving no room for interruption, for other voices.*

*Listening instead of interrupting.*

*You know that reminds me. I read this fantastic line in a book this one time, it went something like this: "grab a rhizome and join in!" (O'Riley, 2003). And perhaps that's how you should leave things. Don't bring it to an end but to extend an invitation. An invitation for others to grab onto a rhizome and venture into the below-ground world.*

*Mmm, I love getting invited to things. Invitation accepted!*

I let these thoughts of Coyote and Raven and carrots dance around in my head. They leave me in a daze, they leave me vulnerable and uncomfortable. There I was, making sense of things, recording my experiences, reviewing notes, data-fying my conversations, turning them into results. And that made sense, but now I'm supposed to make non-sense. Trust others to make sense of my story, their own stories, their wor(l)d(s).

*Ahem.*

Coyote's cough snaps me back to my place in the garden, half below-ground and half above-ground, still.

*Deep in thought this one is.*

*So deep indeed.*

*Perhaps we should leave him be. Much to tend to back below. Some carrot soup for supper maybe?*

*That sounds delightful!*

*(Hey!) The carrots squealed.*

*Well then, ta-ta!*

*Paddle paddle paddle*

*Swooooooooosh.*

I protest. Wait! Wait! Hello? Hello? Coyote? Raven? Carrots?

*Silence.*

Only me again, half below and half above, still. But there was so much more to talk about, I didn't even have a chance to ask why they came up above at all, where they were paddling to, what adventures they had. I stare at my notebook. A sentence that trailed off the page and into a conversation. Where was I now? Oh right, it doesn't matter, best to leave it for now. I pack my notebook and pen back into my backpack. My stomach emits a grumble. Ah, that's a sign that it's time to go home. Still no shovel in sight. A handful into the Earth and a handful out of the

Earth. What does each handful reveal? Uncover? Harm? Kill? What if these weren't rhetorical questions? What if I am truly going to you and asking you to share a response? I don't know, you tell me.

**What now?**

What now? Now what? Where to from here? What I hope to have done here is to imagine a groundwork for a methodology of school garden research that honours the garden not merely as curricular instrument but as a regeneration of our humanly entanglement with our "web of community obligations." Such is a hefty project, and my thesis here is nought but a single star in a vast constellation across a boundless sky. Here, I've told my story, and all I wish to happen now is for you – whoever is reading this, teachers, researchers, children, parents, my Masters programs supervisors and third reader – to tell your story.

Because my research comes only from what I know, and what I know is incomplete, I invite you to "grab a rhizome" go do some ad/venturing yourself. There are many more pieces of theory that we can make relevant in discussions of a methodology for school garden research, and there are pieces that I have included which you may not be so fond of. Many more voices to listen to, many more conversations to be had. I am limited in what I can access. My experiences are not those of a classroom teacher who works with the same children day after day. My experiences are not those of a parent who must navigate the hurdles of the education system for the sake of their child. And my experiences are not those of the child who is placed in such a system, whether they excel or are constricted. And my experiences are not those of a university researcher under pressure from a major granting agency to provide quantifiable and measurable

results. What I believe must follow now is more conversations, more stories told, with a keen nose for critique but an open embracement of the wild and beautiful world(s).

~ ~ ~

I'm nervous now, my typing *st-st-st*-stutters (O'Riley, 2003). Perhaps I am coming to the "end"? The end of a lengthy journey that has brought me all over the place and forced me to think of all sorts of things. But a rhizome has no ends, so maybe it is another beginning that causes my nervousness. But again, a rhizome has no beginnins. I must be in the middle then, finding myself "in the tension of conflict and confusion and possibility" (St. Pierre in Gough, 2010, p. 55). And all those I have certainly felt in the many pages that precede this one, in the journey documented in and by these pages.

Tensions, it is the tensions that I felt as a garden educator that propelled me towards this thesis. A tension that I experienced as I dug deeper and deeper into the world of school garden(s), reading stories, considering theories, and making sense of my own role in them – as teacher, student, researcher, and gardener. Advocate From asking one question – who and what do school gardens serve – and watching that question germinate many others. A tension that has led me to the below-ground garden because the above-ground one simply wouldn't do, or at least, not do enough. A tension that I run into when I sift through all the papers and research that work to reduce the school garden – by conceiving of it solely through the Boylean technologies of control that dominate mainstream Eurowestern thinking and reinforce Martusewicz, Edmunson, and Lupinacci's (2011) "patterns of domination" – to its beneficial constituents, say nutritional, academic, or environmental. There must be more to it, there must be more to it.

This thesis though, has not resolved the tension, or even relieved it. No, far from that. If anything, it has placed me in confrontation with these tensions. Or perhaps, more appropriately,

given me the means to confront them. To confront not only what I have been taught and how I have been taught but the very world in which my own learning has occurred. To confront through unconventional, yet joyful, (eco)technologies. Through play, through humour, through stories, through characters, and through conversations with these characters. Yet learning to use such technologies came with a great deal of confusion. While below-ground, "getting lost" became the orientating principle, and "lost" I sure did become (Lather, 2007). Fortunately, the journey through such an unfamiliar and foreign territory was accompanied by those who are local to it, the rhizome, the rock, the carrots, and the potatoes. Characters who made confusion bearable, if not exciting.

And possibilities. Many of them. And with these possibilities I take my leave, with a sense of optimism. That perhaps if I have done anything, it is to bring to the foreground a different way of talking about, talking to, and talking with school gardens. A different methodology, an *accidental methodology* that comes from not merely posing the same questions differently but in asking different questions altogether. Or not asking questions at all. Possibilities of regenerating different livelihoods, from those that flow from the imagination of the child to those brought to life on the *chacras* of the Peruvian Andes. The possibilities of what might be if we honoured the web of life in which we are entangled.

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