Waybread's Charm:

Re-enchantment and vitality through an apprenticeship in traditional Western herbalism.



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Abstract

This thesis comprises an exploration of the plant commonly known as plantain, or Plantago major, through participant observation of an apprenticeship in traditional western herbalism in the Ottawa region of Ontario, Canada. The first section delves into ideas and manifestations of "weediness" and "invasion", while offering medicinal/ herbalist views of such plants as a kind of counterpoint. This touches on learning to garden, soil, lawns, plantations, invasive species, protests, and extrajudicial police killings among other topics. The following section, "horror in the hedge", takes us first on an "herb walk" in Ottawa's Experimental farm before moving on to a discussion of medicinal understory plants and Plantain alongside hedgerows, witch trials, plagues of Covid-19 and vibration in healing. From here the final section discusses medicine, delving first into the darker side of things as they manifest in the realm of medicinal mushrooms, again touching on the over-harvesting of medicinals, and the discoveries of supposed messiahs. Following is an exploration of how herbalists see continuity between the terrain of the human body and the land, returning again to the "herb walk" as a pedagogic mode utilized by herbalists. Finally, this work is summed up by an exploration of herbal formulation and medicine making, of the Anglo-Saxon Nine Herb's Charm and the potent power of the triad. Drawing on Plantain as a kind of talisman, and structured after the Lacnunga's Nine Herb's charm, this work is an anthropological invocation of animist traditions emerging from Europe. To these ends, the works of Anna Tsing, Tim Ingold, Robin Wall Kimmerer, Gilles Deleuze, Felix Guatarri, Donna Haraway, Michael Taussig, Silvia Federici, David Abram, and Victor Turner, among many others, underpin the theoretical framework of this project.

Table of Contents

Table of Contents	iv
Introduction	v
Part I - Weediness	xiv
Chapter 1: Alter of Decay in the Garden	1
Chapter 2: Invasion	13
Chapter 3: On the Policing of “Weedy” Patches	26
Part II - Horror in the Hedge	36
Chapter 4: Hedge-Walking	37
Chapter 5: On Witches and Understory Plants	50
Chapter 6: Warding off the Plague	64
Part III - Making Medicine	80
Chapter 7: Mushroom Messiah	81
Chapter 8: Terrain	97
Chapter 9: Triune	110
Conclusion	125
Sources	127

Introduction

I have been walking in the woods with my dog looking for mushrooms. It is nearing the end of the day, and we have been walking for many hours. As such, I now find myself in a state of mind which only really seems to occur after several hours of relative silence, and in the company of living things that "don't talk". On the road I encounter an acquaintance, she has heard that I know about plants. She asks me to show her some. Wanting to oblige, perhaps mostly out of reflex, I look down at the ground. I see lobelia immediately, a relatively rare woodland plant. In that instant the plant seems to shriek out at me from within my own mind "don't you fucking dare!". I don't, and move on instead to show this woman raspberry leaves and goldenrod which grow in relative abundance. It would be easy enough to dismiss this episode: wasn't I tired and dehydrated after-all? Was I perhaps projecting some kind of anthropomorphic inclinations onto the Lobelia? All these things are likely true, but if my time learning about medicinal herbs, and as an herbal apprentice has taught me anything, it is to take plants, and their strange demands seriously (Nadasdy 2008).

Despite its exclusion from standards of education for North American medical practitioners since the 1910 Flexner report, Traditional Western Herbalism has persisted as a form of alter5native medicine (Griggs 1997: 243). In the last several years, herbalism has gained purchase with more recent enthusiasts as a means through which settlers living on Indigenous lands (such as the unceded and treaty lands of Canada) might seek to "decolonize". Within this are held certain political claims of healing that seem to extend beyond the human body, offering potential medicine in times of political and ecological crisis. Within this the herbalist view seems to carry an understanding of health and healing that incorporates not only human bodies, but those of the land and its inhabitants. By gesturing toward engagement with herbalist practice as a means of

decolonization, questions are then also raised of herbalism and its potential to "indigenize", or perhaps "re-indigenize" amid the rubble of the anthropocene (Latour 2017: 22).

With such promise also emerges some darker pitfalls: implicit in the industry of herbal medicine are histories of biopiracy, commercialization, extraction, over-harvesting and even in some cases extinction. While certain medicinals, much to their detriment, have been identified and celebrated as medicinal panaceas, the medicine of so-called invasive weeds for-instance is often dismissed. As a means to explore doing this otherwise, *Plantago major* or plantain; an "invasive" species in North America that came with colonial expansion, serves as this work's talisman. On this, Potawatomi botanist Robin Wall Kimmerer has suggested that plantain, or "white man's footsteps", is widely accepted as a useful and naturalized medicinal plant by Indigenous people in North America (2013, 260-1). Indeed plantain is well known to western herbalists for its capacity to drawn foreign substances out of the body, whether infection, sliver, or venom (Wood 2008: 385). Eaten also as food, this small plant serves both to dry and moisten mucous membranes in the body, including the lungs and digestive tracts. It has often been used to help regulate digestion and address dysentery (Wood 2008: 386; Hutchens 1992: 152). It is also a useful vulnerary, assisting with the healing of wounds (Wood 2008: 389). For this reason plantain is often touted as a useful first aid plant, used for the making of spit poultices for cuts, bites or abscesses.

In a more general sense, plantain has also engaged in a specific kind of sociality with humans. Potawatomi botanist Robin Wall Kimmerer has suggested that "after five hundred years of living as a good neighbour" plantain, or white man's footsteps, is widely accepted as a useful medicinal plant by Indigenous people in North America (2013, 260-1). She notes that having followed the original instructions of Nanabozo, or first man, Plantain has naturalized and made a home here (Kimmerer 2013: 214). This has meant that unlike other species often deemed inva-

sive, this traveling plant has not ravaged landscapes as though they were disposable. Instead, it "arrived with the first settlers and followed them everywhere they went. It trotted along paths through the woods, along wagon roads and railroads, like a faithful dog" (Kimmerer 2013: 213). It is in this context that Kimmerer then states "perhaps plantain will line the homeward path," suggesting to settlers, and humans more generally, that"[w]e could follow" (2013, 261).

In taking this proposition seriously, this work follows two things: 1) my movements through an apprenticeship in traditional western herbalism, and 2) the movement of plants like plantain, so frequently associated with colonial expansion, and characterized in terms of "invasion". My aim in looking to these plants specifically, in herbalist terms often understood as "hedgerow plants", serves to undo imposed conceptualizations (Dunbar 2016). In tracing out these plants and perspectives I aim to assist in the composition of an "anti-plantation" amid the horrific deterritorialization of the anthropocene (Tsing 2015: 38: Latour 2017: 14). By association with the fertile edges of the plantation, plantain leads us to a kind of "open ended gathering" as it joins with those who seek it out in the hedgerows (Tsing 2015: 218). The hedgerow then emerges as a place to "land" amid plantations, forests and gardens (Latour 2017: 22). Deeply woven then into the fabric of this hedgy meshwork of lines (Ingold 2015) we find too an animistic bent within the traditions of Western herbalism.

The methodology for this work has centred then around tracing plantain's weediness through participant observation of an herbalist apprenticeship program in Wakefield Qc., with clinical herbalist Abrah Arneson, and through other herbalist events, trainings and gatherings that occurred before the 2020 Covid-19 pandemic, or online. As such my field site has not been singular, but stretches from my own felt sense of plants in the body, to noticing my dreams, to making preparations, to zoom classes, to my garden, to the edges of Ottawa's Central Experimental Farm near my home, and spiralling outward to the plants lining roadways and forest paths of the

Ottawa Valley. As such I have in many senses followed lines of deterritorialization that see Traditional Western Herbalism at the interface between the ever shifting and sentient entities of plantain, terrain and the ailing human body, all the while gesturing also toward grander schemes for healing amid disturbance (Deleuze & Guattari 1980: 13; Tsing 2015: 152).



Plantain lanceolata, or narrow leafed plantain, September 2020

The herbal apprenticeship in which I am still currently engaged began September of 2019. Other herbalist events and activities are also mentioned and drawn upon for this work, though I reflect most substantially on various independent, but related activities which include: growing herbs, foraging, preparing medicines, ingesting medicines, formulating, assessing clients in the student herb clinic, walking, observing, and, as it would so happen, dancing. Gardens, forests, fields, parks, kitchens, classrooms, and the corporeal experiences of consuming medicine all served as field sites. These I see as conceptually linked by rhizomes, or perhaps even as open ended assemblages, which move between the interstices of person, plant and terrain, a triad that surfaces again and again throughout herbalist literature and practice (Deleuze & Guattarri 1980; Tsing 2015: 83).

Within the anthropological literature on plants, Natasha Myers describes the garden as a site of 'involution' and 'reciprocal capture' (2017: 1). Here she states "[g]ardens are… poignant sites for anthropological inquiry into the various ways that people stage relations with plants – whether these relations are intimate, extractive, violent, or instrumentalizing" (2017:1). Myers is clear that the ethnographic question becomes "how do people choose to stage their relations with plants?" (2017:1). What is clear is that gardening, and the forms of tending it entails, offer a space for people to engage with plants and participate in something with them (Pitt 2015, 51). Geographer Hannah Pitt describes gardener's knowledge as embodied and garnered through close attention to the details of plant environment. This is best illustrated through her learning, and process of getting a feel for, the harvest of ripe tomatoes: a process she described as revelatory given their easy detachment from the calyx when perfectly ripe (Pitt 2015, 52). In this human, garden, tomato assemblage, or perhaps "gathering", a mutual cuing can take place; a phenomena Henri Bergson might understand as intuitive (During 2008, 400). Building up from here through regular gardening, tending, foraging of medicinal plants, I then expand on what this intu-

ition in this Bergsonian sense might look and feel like, especially in navigating the relationships between "weed", monocorp, and hedgerow.

Diana Gibson, inspired by the work of Tim Ingold, has drawn on notions of dwelling with plants as a means to understand them (2018, 92). Through simply being with a plant she notes that we are compelled to develop a feeling, both visceral and empathetic, for the vegetal and its interspecies assemblages. This "planty knowledge" is both emerging from what humans learn about plants, and also what plants themselves glean of, and exchange with the world (Gibson 2018, 93). Gibson effectively argues that what the plant knows is demonstrated through its actions and presence in the world. In being with, and witnessing the revelations of plants, we too imbibe some of this knowledge (Gibson 2018, 94): or as Myers might suggest, we are vegetalized (2017: 4).While I do not seek to proclaim humanity vegetalized through encounter with plantain, herbalism, or hedgerow, I do wish to highlight an undercurrent of *veriditas,* or "the energy of creation and of recreation; …a verb that refers to the active making-green, the greening of the world in the course of its becoming-world" (Marder 2019; 140).

Myers, Pitt and Gibson then all suggest sensorial techniques to assist in developing something akin to Anna Tsing's "art of noticing" (2015, 17). For both Tsing and Gibson, hiking/ foraging are a central aspect of their methods. Within this they are more akin to Ingold's *flâneur,* distinguished from the marcher "who, as he strides along, sees and hears nothing of what is going on," the *flâneur* "may linger for a moment to wonder, to dream, to remember and possibly to be astonished by the unexpected" (Vergunst & Ingold 2008, 15). In this sense, moving through terrain in such a manner allows us to be affected by it, enables a taking in of the relationships between things, a hones a perspective from within the assemblages, rhizomes, or gatherings in which we too participate.

This sense of awareness can also be transported within the terrain of the human body itself. After-all it is through generations of sharing knowledge, and taking note of *veriditas,* that herbalist practices have endured, offering people a chance at "knowing *from the inside"* (Ingold 2013: 5). In this sense, this work enters a social fray composed of plants, pathogens, humans and beyond. As such, Traditional Western Herbalism serves as a means to re-negotiate modes of embodiment through the ingesting of plant-matter (Niessen 2013). This interaction has been described by Tatiana Chudakova as *pharmacopoeisis*: a process "as thoroughly social, political, and historical as …[it is] biochemical and ecological" (2017: 342). The plant not only becomes incorporated as a part of the human body, but is transformed through labour and experience; only thus can it be used by the herbalist as technique in altering, or adjusting, ailing modes of embodiment (Chudakova 2017: 342). In this sense the plants express something of themselves through the reactions they illicit in the human body.

So more than making- kin in the mode of Donna Haraway (2016), or vegetalizing (Myers 2017), Traditional Western Herbalists suss out, and mobilize, some of the ways in which humans and plants might already exist in continuity with one another, forming lines of flight where possibilities are made anew (Deleuze & Guatarri 2004, 10; Laplante 2017, 43; Houle & Querrien 2012). Herbalists then, like the shamans and plant healers noted in Julie Laplante's work, form an interlocutor in this process of becoming vegetal; preparing plants in ways that can be digestible (2017, 44:51). Indeed as Tim Ingold suggests in *Making*, to make is to engage in "a process of growth" (2013: 21). In so doing we enter into correspondence, "developing a rhythm and a feel for the material" (Ingold 2013: 23). This process of getting a feel for material resonates deeply with processes of medicine making, and listening to the ways in which a plant, such as plantain, might speak to us through our engagement with it (Ingold 2013: 5). Thus in attentively making medicine, we bring the vegetal verge of *veriditas* into our own beings, carry-

ing forward a long-held vitalist sense of aliveness (Marder 2019: 141 Wood 2000). Indeed, "animistic proclivities remain fiercely operative within even our most taken-for-granted encounters with the world" (Abram 2010: 278).

This work is then formed a tripartite structure inspired by the ancient Anglo-Saxon Nine Herbs Charm, in which Plantain is known as Waybread (Storl 2017: 293). In a waltzing fashion then, the first triplet establishes our foray as an exploration of "weediness". Beginning in the domestic realms of the garden, the first chapter comprises an homage to the "alter of decay", to encountering death, domesticity, and thistles. The following chapter centres around an exploration of the concept of invasion, and on what the perspectives of herbal medicine might offer to common conceptualizations thereof. Completing this first triad, the third chapter discusses the policing of "weedy" patches, juxtaposing the social unrest emergent in extrajudicial police killings, the destruction of beautiful common "weeds", and the plantation.

This then gives way to our second triptych, addressing the herbs, hedges and horrors of the anthropocene, whether historical and generative thereof, or current in their prescience. This begins with a gentle herb-walk through Ottawa's experimental farm, an exploration that gives way to unsettled spirits, and creatures of the night, all the while juxtaposing field and hedgerow. Chapter five then follows-up with a discussion of reformation era European witch hunts, the politics of fertility, and endangered medicinal understory plants. Completing this second triad is the sixth chapter about living through the Covid-19 pandemic, dancing, and waybread as it emerges in the Lacnunga's Nine Herbs Charm.

The third chord in this enterprise places emphasis on the theme of medicine. Here chapter seven digs into the realms of medicinal mushrooms, into packets of health-food store powders, and the ways in which messiahs constitute no antidote to our troubled times. From here we move into an assessment of terrain, of the rhizome-like continuity between land, herb and flesh,

and of the interplay between the elements of earth, air, fire and water in such matters. Last but not least, chapter nine completes this ultimate trine with a discussion of the triune formulation method, of nine herb formulas, and the power of threes.

Part I - Weediness



Plantain after flowering, Central Experimental Farm, Summer 2020

Chapter 1: Alter of Decay in the Garden

There is much to be learned about medicine and plants in a garden. As Ingold and Hallam indicate in their 2016 work, *Making and Growing,* a garden comprises a site of both (big shock here) making, and growing (4). For the authors, these two processes are as akin to one another as being and becoming (Ingold & Hallam 2016: 17). While growth may be continual, the act of making often marks a liminal transition between raw material and finished product; a rite of passage orchestrated by the marker (Ingold and Hallam 2016: 2). In gardens, plants grow while gardeners make. For instance, in the disturbance of soil, often a crucial part of the raw material manipulation necessary for gardening, there is entailed a kind of otherwise rarely seen nakedness of the earth. It is so-called "weeds" who rush in to cover this up with their growth, to shield this liminal nakedness of the ground. This nude symbol described by Victor Turner as the "mark of a newborn infant and a corpse prepared for burial" holds a potent link to the contradictory birth and death nature of liminality (1967: 99). In the spirit of Donna Haraway's notion that "we are all compost", it is notable too that we live our lives as compost in waiting; begetting life and sustenance from the earth, and returning to it when we die (2016: 101-2). Emphasis here is then drawn to becomings, and also toward undoings on "the very ground of becoming" (Ingold & Hallam 2016: 5). Both these processes emerge as a kind of "making-in-growing, or growing-in-making" (Ingold & Hallam 2016: 5).

While seeking to characterize ritually structured rites of passage, Arnold Van Gennep proposed three phases inherent to rites of passage: the phase of separation entailing symbolic removal, the liminal phase in which the process of transition is seen either as dangerous or made

invisible, and third, the passage into completion and reintegration (Turner 1965: 94). It is in the liminal phase however, in the "betwixt and between" that turner saw "the basic building blocs of culture" as exposed (1965: 110). While such assertions carry with them the sometimes troublesome weight and rigidities of structuralism, they serve nonetheless as useful concepts to think with. This chapter then digs into the liminality of what it is to become an herbalist, and also what it might mean for a patch of soil to become a garden. These undertakings comprise an endeavour to learn in some sense "the first principals of life", and to be initiated into the "ultimate standards of reference" (Turner 1965: 108). What is to come is then a kind of narrative, one about "transitions between states" and wrestling with the life and death of liminality as a means to make, or grow, something anew (Turner 1965: 93)

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My first year (2019-2020) in Abrah's herbal apprenticeship program entailed, among other things, a handful of days in her herb garden. This time was spent discussing the plants that grew there, or sometimes quietly meditating with, or observing the plants. Other herbalist trainings which I had previously attended were similarly located in or around a medicinal herb garden. As part of the second year with Abrah, she requested that every apprentice "grow at least 3 medicinal herbs and make notes on the experience". While apprentices might have had different entry points into herbal medicine, I realized that my primary entryway was precisely through gardening.

In my twenties I had experimented in the growing of vegetables with mixed, though mostly good results. The most substantial part of my adult experience with gardening arose from planting and tending to a small urban garden behind an apartment in which I had lived for some

years. I gleaned from the landlord and other neighbours that different elderly women, either Vietnamese or Italian, had tended to the soil and cultivated this little slice of earth for some-time before I came on the scene. Indeed when I first arrived to the apartment in the fall of 2012, the garden was being tended by an older Vietnamese women next-door. She had several vegetables growing, most memorable of which was the elaborately trellised bitter melon. As this woman moved away from the neighbourhood, the landlord offered the small plot to me if I was interested. I eagerly accepted and noticed with excitement that first spring and summer that tomatoes volunteered themselves, as did cat nip and pac choy - these surprises popped up like welcome echoes of cultivators past. In the years that I grew vegetables on this plot I grew curious about the weeds, cooking up the most notably edible weeds (like lamb's quarters), but remained largely ignorant to the medicinal qualities of the plants I weeded out; indeed most of them I simply didn't think twice about. Indeed, with annually applied compost and modest weeding the soil seemed to produce endless tomatoes, greens, spinach and even Okra. This patch of bare earth, encircled as it was in concrete, had produced good food for decades worth of inhabitants.

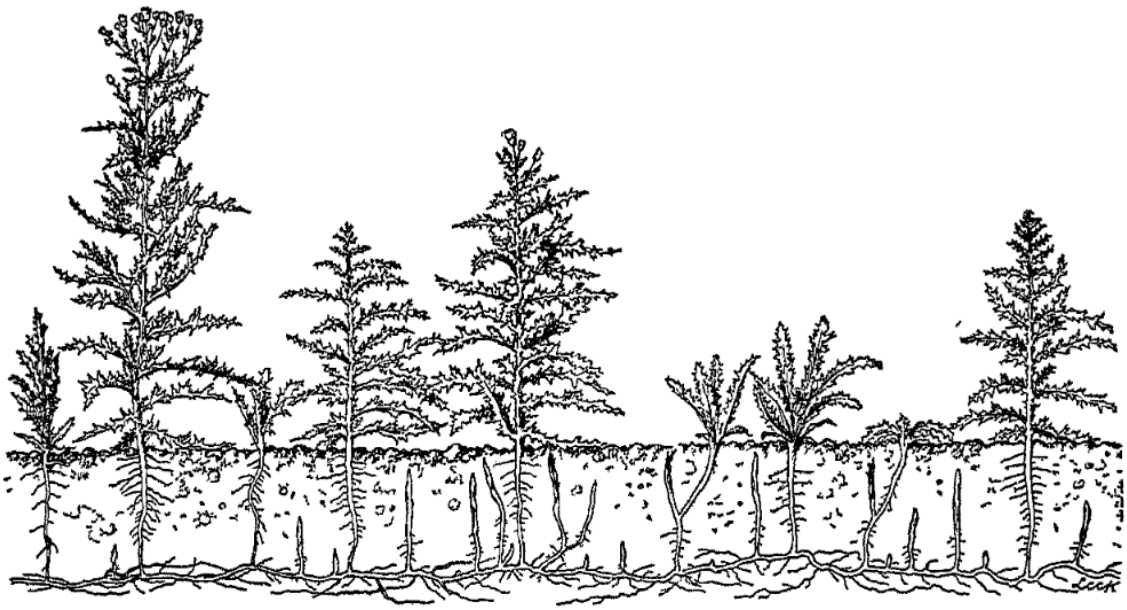
It was when I moved into a house, further from the hubbub of Ottawa's little Italy, that I decided I would undertake the making of my first garden. We landed in a midcentury bungalow on a regular sized plot of land. I was excited by the prospect of a south facing front yard, riddled though it was with sad irregularly placed miniature cedars. These little trees, adrift in a sea of bright red cedar chips, thought perhaps to match the adobe coloured stucco of the house, struck me as a strange northern take on the palette of the New Mexican desert. Unperturbed by this scene, I remained convinced that south facing exposures and enough space could fix anything. It took a long while for it to dawn on me that this was not simply a landscaping experiment gone awry in a purely aesthetic sense. Only time spent in the in the nooks and crannies of even this

small patch of land could reveal the complex interplays of vegetal life. Indeed the story of my garden's soil and its vegetal inhabitants started long before me, but when I came to this house in 2016, the land that was to become my garden was more deeply disturbed than I realized.

Nonetheless, while the earth was smothered with cedar bits, the plants were also busy. Morning Glory had suddenly erupted, creating a thick blanket of tangled vines that encircled the doomed cedars. Whole billowing blankets of the stuff had created a wild understory I could barely walk through. That fall after ripping out the morning glory, I happened to attend the 2016 Killaloe Herb Gathering. Tamara Segal, a Prince Edward County herbalist, had done a session on the medicinal value of invasive plants. In discussing Morning glory, she noted that it had a tendency to prefer acidic and nutrient deprived soil, typically subsiding as nutrients were added. The following spring, still bent on making a worthy vegetable garden, I ordered two yards of compost, while my partner raked up the cedar chips. I had decided to build up beds using a sheet mulching technique, and so layers of compost, dumpster dived cardboard, straw and soil were strewn in broad layers over the chip studded clay, while the miniature cedars were unceremoniously heaped onto the curb.

Grieving the loss of both my grandmothers that spring however the garden became a bit of a white whale. I refused to fully recognize how much of an undertaking it was. I planted spinach up until the last minute before catching the plane to the funeral and nearly missed the flight. Still as I ran through the airport, belt and shoes in hand, only part of me could see the full absurdity of it all. When I returned, I saw that while the morning glory might have subsided, the Canada thistles had taken over. Weeding fork in hand, I battled with them. As they pricked me, my irritation only grew; this would be a garden damnit!

Oddly enough it was at this same time that other so-called weeds were making themselves known to me. Throwing myself into learning more about medicinal plants, I found that more and more of the plants surrounding my home and the pathways near my house were in fact important medicinal herbs. I recall one day in my back yard I noticed a tall slender plant with silvery leaves. I somehow knew it was mugwort, or *Artemisia vulgaris*, though I had never before recognized it and had only ever read of its uses. When I double checked its identity in a field-guide, sure enough it was mugwort. Motherworts, mulleins, hawthorns, bane berries, violets, St. John's wort and all manner of plants suddenly started becoming visible to me, as though they were simply waiting to be noticed. As I devoured information about all these plants, I started to view the thistles in my garden somewhat differently. While I knew they were medicinally potent, and I wanted to learn more about them, the Canada thistles growing abundantly in my



"Diagrammatic sketch [of Canada Thistle] representing branching root system and development of aerial shoots." (Demeters 1927, 20).

yard were not the typically used medicinal variety. I made attempts to gather the roots, but they turned brown and rotted too quickly to prepare them, a process which seemed peculiarly expedit-

ed by washing. I alternated between trying to appreciate or use the thistles, and obliterating them. This incoherent response seemed to egg them on, their lateral rhizomes spreading further, sending out new thorny landmines throughout the garden. In short, weeding had not only became a great source of ambivalence for me, but a bloodthirsty and increasingly avoided chore.

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Thinking back, I see this time as an awakening from what plant biologists James Wandersee and Elisabeth Schussler (1999) describe as "plant blindness". They define it as:

> a) the inability to see or notice the plants in one's environment; b) the inability to recognize the importance of plants in the biosphere and in human affairs; c) the inability to appreciate the aesthetic and unique biological features of the life forms that belong to the Plant Kingdom; and d) the misguided anthropocentric ranking of plants as inferior to animals and thus, as unworthy of consideration (Wandersee & Schussler, 1999: 82).

This moment then of piercing the veil, or learning to distinguish the various components of the green blur, is one essential to a kind of initiation into herbalism. It is the plants themselves however who also seem to comprise a kind of liminality; as part of the green expanse "they are at once no longer classified and not yet classified" (Turner 1965: 96). In this state they are perceived as dangerous, potentially poisonous, or perhaps simply as a potential pollutants, rendering others by association impure (Turner 1965: 97).

In coming to a place of distinguishing and naming these distinct plants, in recognizing their long histories of use, and in using them and feeling their actions in the body, a new kind of recognition could be established, and often forged anew continually over time. This as described by Ingold and Hallam, comprises "the very ground of becoming" (2016: 5). Indeed in the midst of the transition from seeing only "weeds" to seeing individuals and families of plants there was

a threatening dissolution within my own conceptualization of what warrants consideration as a plant in a garden (Turner 1965: 97). As the thistle became something potentially more than a "weed", and thus warranting potentially more than unquestioned ritual purging from the hallowed ground of the garden, it occupied instead a place of "ambiguity and paradox, a confusion of all the customary categories" (Turner 1965: 97). While criticisms of my increasingly wild garden were limited, implications by some "that I had a lot of work to do" were in some sense an expression of fear, of a kind of catching, or perhaps polluting, quality to the "weedier" plants that chose to dwell in this space. Indeed a certain moral, and occasionally political undertone seemed to creep into such assumptions. Michal Pollan for instance in his book *Second Nature* notes that "weeds" comprise " the plant world's proletariat, furiously reproducing and threatening to usurp the position of their more refined horticultural betters" (2007: 100). Indeed here we find the potential for *undoing* inherent to the liminal state, represented in the "metaphor of dissolution" (Turner 1965: 96). Both my garden and I seemed in some sense bundled together in this potential for undoing.

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At the 2018 heartwood gathering, a yearly herbal event, I attended a session where Herbalist Steven Martyn talked about the importance of weeds which worked the soil, preparing the way for other plants, and often at least in eastern Ontario, for forest. Much of this was easy to accept, Plantain, Dandelion, Burdock - all are common "weeds", but also classic medicinals. In fact it resonated with my general aversion to weeding. When I mentioned my prickly power struggle with the thistles, Steve jokingly indicated that it must be my Scottish ancestry trying to get through. He emphasized however that all thistles, especially the European *Silybum marianus*,

or Milk thistle, have long been used to support and protect the liver. As my herbalist training and knowledge has accumulated and built up over time, I have learned that dis-regulation of the liver is often associated with anger and frustration. Indeed perhaps the insistence of the thistles was mirroring something of my internal state.

Over-time my somewhat crazed zealousness about the garden ebbed, and although the incoherency of my occasional blitzes and subsequent laissez-faire inactions when it came to weeding might have seemed in some senses futile, my new found emphasis on medicinal perennials had yielded some exciting results. Echinacea bloomed, Calendula became a staple of summer and fall, while Arnica popped up early in the spring. Roses, Horseradish, Comfrey and Black cohosh had all joined the fray. But still Canada thistle gobble up space, sun, and nutrients from my herbs. Some "weedy" plants I allowed to stay, Primrose and Yellow dock for instance offered in return some nutritional and medicinal value to me. Indeed various weeds, particularly Dandelions, Nettles, Lamb's quarter's, Plantain and Wintercress had become welcome additions to my salads, smoothies, or steamed greens. Like Pascal Baudar, a popular wild food forager, chef and now author, I was smitten with the idea of eating, and otherwise consuming, marauding plant dwellers (Stern 2018). The thistles however instilled within me a sense of dread. They were reputedly edible (like an artichoke once the spines were removed), but I had not discerned how best to do this. They frequently prickled my skin leaving it itchy and raw, and while I would tolerate them for a time, eventually my frustration would overtake me as I tore them up. But even then as a long fleshy rhizomes would suddenly emerge from the earth I would wonder, do I have the time or energy to make use of you? Should I be doing better somehow with all of this?

It was finally this past fall, with the hectic nature of the growing season mostly behind me that I decided to speak with someone about the garden overall. I suspected I was working harder than I needed to, and that my plants weren't necessarily the better for it. Further, while various neighbours seemed to appreciate my semi-wild garden, a few had been slightly more judgemental. And so I sought out Bonita Ford, a permaculture design consultant who came to look at my



One of the soil holes dug with Bonita's encouragement, indicating clay and poor drainage.

garden. When I joked that I needed garden therapy, she looked at me earnestly, perhaps with some concern, and said she didn't do therapy. We proceeded to draw maps and dig soil holes, all the while recording the results. I found out that the soil in different patches of my lot was quite different, and that it drained water at wildly different rates; My Zaatar Oregano had, it turned out, not suffered from a failure to thrive so much as from finding itself in a zone with pitiful water absorption. It slowly dawned on me that the earth all around the house had not only been assaulted by red dye clad wood chips, but had been completely dug and up and mixed about, likely with a back hoe in the relatively recent past in the process of foundation work. The disturbance had unearthed dense clay that was likely composed of lower layers of soil which drained very poorly. My hard-won compost and soil amendments were flowing, at least in part, into the gutter.

Once winter hit Bonita had me drawing plans for the garden, what would it look like if I were starting from scratch? What was a feasible amount of work for this upcoming growing season? What was the theme and logic behind the various garden beds? With the distance imposed by winter, and some outside perspective, I could see how my knee-jerk reaction gardening style needed some rethinking. "Put the plants from which you harvest roots together" she encouraged me, "think through layering plants of different heights to maximize sunlight"; such suggestions were of course more obvious to me with hindsight, but somehow elusive to me in the garden. Perhaps most illuminating for me was the degree of disturbance and the need for repair in building up of the soil. Was it possible that the hot itch of the thistles might be mirroring the distress of the very soil I was trying to render into a garden? Might the Morning glory have served as a kind of scab over a wound, while the thistles with their taproots and rhizomes might have sought to break and ease the heaviness of the clay? Was this strange unfocused irritation I felt not only my own? All things seemed possible. After-all, as David Abrams puts it, "our manner of under-

standing and conceptualizing our various "interior" moods..[is] originally borrowed from the moody capricious earth itself" (2010: 153).

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What is clear, and Bonita emphasized this as we concluded our time together, is that a garden is never "done". There is no end point, but rather a kind continual growth that shifts with the ebbs and flows of time. Indeed this patch of land that is my garden has not been cultivated for decades as were my previous gardens. This soil is still learning to be a garden, and I am still learning to help make it so. In this sense the structuralist aspirations for clearly defined rites of passage are somewhat thwarted. Often, the ongoing nature of becoming stretches into a kind of rhizome or plateau rather than culminating into a concrete end (Deleuze & Guatarri 1980: 32). As for the thistles, sacrifice for what Steve Martyn dubbed "the alter of decay", or compost heap, is as good a use as any. Indeed, the Canada thistle is reputedly high in potassium and excellent for composting (Ehrenfried 1970: 59).

In her writing about horticultural therapy in Scotland, Anne Jepson notes that gardening serves often as a kind of metaphor for the life cycles, as an arena of nurturing that offers escape from difficult life experience (2016: 149). Paradoxically however the garden seems to serve not exclusively as an escape *from* life, so much as an escape *into* life. Indeed like the bare exposed soil of my garden I think there are many of us who might crave the cool shady shelter afforded by a shroud of "weeds". Indeed this is often the role which weeds will play. Richard Maybe notes that after the bombings of London in world war II, "a whole new ecosystem had taken root in the city's wounds" (2010: 22). In such undoings, the garden and its various vegetal dwellers impressed me with what Turner might call a kind of gnosis; as " a seal impresses wax, with the

characteristics of a new state" (1965: 102). This is the process of coming to know and understand terrain, earth or soil, a process foundational to herbal assessment of the human body; but so too to the process of coming to know various plants, to care for them, to glean something of their interactions with the terrain, to water, to air and to light. Indeed the perceived invasions of a garden's soil, might even find their echoes in the disturbance and illness wrought by pathogens.



The garden, June 2020

Chapter 2: Invasion

The "Cytokine storm" emerged as a newly familiar term to many of us as the Covid-19 pandemic took hold. Suddenly elderberry, a classic immune stimulant reputedly used even during the bubonic plague, was suspected of inducing this dreaded immune cascade. Medical Herbalist Paul Bergner has described the cytokine storm as a "a complex orchestrated response of many cytokines" typically resulting in an extreme inflammatory response (Bergner 2020b). Bergner emphasizes however that the condition arises primarily in the death throws of illness and thus long after herbal medicine would typically give way to emergency allopathic interventions (Bergner 2020b). Interestingly however, much of the fear concerning elderberry and cytokine storms was extrapolated from one study in which sambucol extracts from black elderberries were provided to influenza patients. This treatment had been largely beneficial, reducing the duration of the flu, increasing anti-body levels, and augmenting the production of inflammatory cytokines (Barak *et al*. 2001). These cytokines are small, lipid clad proteins that serve as signals or messengers between the cells of the body. Notable progenitors of the cytokine include the more grand players of the immune system - the hungry macrophages, the antibody spewing B &T lymphocytes, the discerning mast cells, the liminal endothelial cell portals, and the generative matrix making fibroblasts. Floating through intercellular fluids and edging their way through cell surface receptors, cytokines then serve to pass messages that assist in modulating immune response. Interferons, for instance, disrupt processes of viral replication in the body, while other cytokines regulate antibody responses or modulate inflammation in sites of oxidative stress.

The term "cytokine storm" was popularized in the context of the avian H5N1 influenza virus outbreak to characterize how an inflammatory response might flare out of control (Tisoncik *et* al. 2012). This slippery slope of a cascading immune response begins as a mast cell encounters something foreign in the mucous membrane of the respiratory tract. Unsure of what it is, it initiates an inflammatory response to curb the potentially malignant movements of this entity. Increased blood flow and lymphatic fluid carrying nutrients and, most importantly perhaps, macrophages and lymphocytes that might recognize and/ or disable this potential threat. Such events are commonplace in the functioning of a healthy immune system, and if all goes well the invasion of any virus might well be halted before it even has much of an opportunity to begin. But let us imagine that a virus makes its way into the lung mucosa and is missed by the mast cells. It replicates, and by the time the mast cells have figured out what's going on, their work is cut out for them. There is a bigger, grander inflammatory response, again in an attempt to rectify the situation. Despite this latent response, its actions are perhaps forceful enough that the inflammation spills out into nearby circulatory pathways. Swellings of debris and detritus from the messy duelings of virus and immune cells accumulate - hopefully by now we might have some heat and fever, helping to render viral guests unwelcome. God forbid any temptation to add ibuprofen to the mix -our weary macrophages might lose whatever advantage offered to them (Bergner 2020a). But for the sake of argument here we will say that the discomfort overwhelms our human host, and pills get popped: antibody production slows as does the virus disabling interferon - meanwhile the virus replicates with greater ease.

While non-steroidal anti-inflammatories, such as ibuprofen, do not cause cytokine storms outright, they enter into our narrative here to demonstrate one possible pathway in which viral incursions to the body might play out, especially as bodily immune functions are thwarted. Re-

turning to the unfortunately swollen lungs of our virus ridden host, we see that the stage has been set for our messy saga to drag on. Temporarily waylaid, immune cells regroup - positive feedback and cytokine messengers engage by recruiting whatever stray mast cells, macrophages, lymphocytes etc. might be available: they prepare themselves for battle; after-all, pandemics and pathogens are often framed in terms of war and security threat (Lowe 2010: 633). Launching their attack, the inflammation spreads and affects surrounding organs. Pesky viral intruders take cover in the thin layer of epithelial cells in the lungs and the full brunt of immune response is directed toward these thin, bubblegum like tissues (Peipei *et al*. 2020). Breathing becomes difficult, and in the worst of situations, acute respiratory distress syndrome (ARDS) takes hold. As exuda and phlegmatic secretions fill the lungs in a bid to assist in the repair of tissues, oxygen levels decrease as lungs take in less and less. With minimal oxygen hitting the bloodstream, the blood itself becomes increasingly prone to coagulation. This thickened blood may clot more readily. Doom may indeed seem immanent.In this way the smallest bit of virus or bacteria can in such a fashion wreak havoc to the point of this grotesque kind of self mutilation and death - such is one visceral response to invasion.

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"Weediness" is inherently bound up in ideas about invasion. Vegetal incursions are commonplace and familiar enough to be frequently aligned with more anthropomorphized understandings, narratives of invasion of an imperialist sort amoung them. Anna Tsing, in her essay "The New Wild", for instance, notes that "[i]mperial and industrial transformations of the landscape encourage nonhuman collaborators; working together with humans… they make the terrors of the Anthropocene" (2018). Here, and also in the work of environmental historian Alfred Crosby, *Ecological Imperialism*, we see what appears to be a most sinister form of human plant

collusion. For Crosby, European colonization itself occurred alongside a *portmanteau biota*, including both animal and microbial migrants, a "collective name for …all the organisms they brought with them" (Crosby 2015: 270). Indeed what Tsing describes of the invasive plant *Balaran* in Indonesian Borneo fits well into such a framework: innocuous until the forest is subject to logging, *Balaran* suddenly takes over, smothering all else and inhibiting forest succession (Tsing 2018). Thus, human actions offer affordances, of an unfortunate sort to the more assertive modes of vegetality (Tsing 2018).

While 60% of farm "weeds" in Canada may well be European in origin, Not all non-native species seem to be particularly invasive (Crosby 2015: 164). Indeed of our chosen plant talisman in this journey, *Plantago major*, Alfred Crosby noted that "it rates as one of the very hardiest of weeds in the world, and it will be with us forever", but it has nonetheless naturalized (215: 169). I recall here then that Potawatomi botanist Robin Wall Kimmerer has suggested that "after five hundred years of living as a good neighbour" plantain, or white man's footsteps, is widely accepted as a useful medicinal plant by Indigenous people in North America (2013, 260-1). She notes that having followed the original instructions of Nanabozo, or first man, Plantain has naturalized and made a home here (Kimmerer 2013: 214). This has meant that unlike other species often deemed invasive, this traveling plant has not ravaged landscapes as though they were disposable. Instead it "arrived with the first settlers and followed them everywhere they went. It trotted along paths through the woods, along wagon roads and railroads, like a faithful dog" (Kimmerer 2013: 213). It is in this context that Kimmerer then states "perhaps plantain will line the homeward path," suggesting to settlers as well that"[w]e could follow" (2013, 261). So if Plantain is not "Indigenous", but has in some sense "indigenized", should we see a plant such as *Balaran* as a kind of imperialist?

For Tsing, invasive plants serve as harbingers of the anthropocene and a part of what she describes as the "new wild", a place where " earth's inhabitants unlearn habits of living with others, instead wreaking havoc on livable ecologies" (Tsing 2018). Invasions, some even corresponding to potential extinction events, are then facilitated by the "intentionally inattentive industrial and imperial practices" of humans which have created this new wild and it's associated "set of affordances" (Tsing 2018). Affordance, a term coined by psychologist James Gibson, describes that which is provided or furnished by the environment for better or worse (1986: 119). Gibson notes that the term was designed to imply "the complementarity of the animal and the environment" (1986: 119). Ultimately then when Tsing (2018) leaves us, after summarizing a litany of anthropocene era horrors, with the question"Can we change that?", followed by the terse response "[y]ou tell me", I am left somewhat wanting. While disasters should not go unwitnessed, or in some sense unfelt, processing traumas such as invasions, deforestation and extinction events, also requires us to make meaning that reaches beyond the often guilt-ridden paralysis of shock and horror; indeed how else might new affordances and complementarities be created?

Returning then to environmental historian Alfred Crosby and his work *Ecological Imperialism,* Crosby is clear that in bestowing a plant with the moniker of "weed", or even as an "invasive" for that matter, humans engage in an act of anthropocentrism (2015: 149). He pokes fun at historical thinkers referring to weeds as the "tramps of our flora", an obviously troubling comparison, so as to emphasize that "weeds are not good or bad; they are simply the plants that tempt the botanist to use such anthropomorphic terms as aggressive and opportunistic" (Crosby 2015: 150). Tsing and Crosby then both note the centrality of disturbance to the prolific nature of weeds, but it is Crosby that digs into the associations with agriculture (a clear disturbance) and succession:

> [b]efore the advent of agriculture, there were relatively few of these plants representing any given species: they were the "pioneers of secondary successions or colonizers," specializing in the occupation of ground stripped of plants by landslides, floods, fires, and so forth. (Crosby 2015: 149)

It is perhaps for this reason that, as Crosby observes, most invasives seem to come out of Europe, out of a continent ravaged by disturbance centuries prior to the escape of the *portmanteau biota* (Crosby 2015: 151,164). These hardy plants have steeled themselves over time to survive "miserable microclimates", seeming only to choke on their own success (Crosby 2015: 168-9). Indeed it is this that is key, the aggressiveness of the vegetal invasion corresponds perhaps with the aggressiveness of disturbance. In this fashion, more disturbance affords more opportunity to find ways of bouncing back; in this there is a push-me/ pull-you kind of correspondence or complementarity, and echoes also of the cytokine storm.

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It is just starting to feel like winter and I have come to a newly discovered path on the fringes of the city with my dog. As walk up the hill that graces the beginning of this snowy path in Ottawa's green belt, I notice a flash of reddish brown to my left; it is eye catching, creating a contrast to the white and grey surrounding me. This plant is tall with a dramatically vertical stem giving way to thin and wildly angular branches. Its feet sprout up right near the path, but seem to appreciate the low-lying damp ground in this small dip before the hill. It occurs to me slowly that this is the dreaded Japanese knotweed. While I have heard much about this notoriously invasive plant, I have in actuality rarely seen or noticed it. I touch it's branch and snap off a dry and brittle twig- wow! Is it hollow? Of course!… it resembles bamboo, also considered a dangerous and fast growing invasive. As I stare into the tiny hollow twig, a flood of teachings form Abrah, and others, rush back to me. Japanese knotweed is for blood vessels…. containing significant quantities of the potent anti-oxidant resveratrol, Japanese Knotweed supports the regeneration of blood

vessels and repairs damage to the endothelial linings of the circulatory system. Looking at this smooth hollow branch, it seems perfectly natural that I would be reminded that this is blood vessel medicine.

Some months later I return to this path, and this time as I clamber up a hill I notice off in the distance, two figures… jousting with Phragmites? They wear one piece snowsuits of bright colours with head bands- one is young girl, the other might be her mother. The match is rowdy and dramatic enough that my dog barks excitedly, indeed the long reedlike stems tipped with its seedy tassel make Phragmites a satisfying and comical weapon of choice. I am amused that such fun can be had with this much hated and resented invasive. As we carry on to the right as the pathways diverge and I notice a ditch alongside this stretch of the pathway; it seems to form a barrier between this path and a patch of formerly cleared and much disturbed land. These long



Japanese Knotweed, Fall 2020.

and slender swathes have become damp phragmites habitat- tall reeds standing upright, seed tassels at the ready. I am reminded of the herbalist who once told me that it is the roots of phragmites that contain DMT, a molecular component of ayahuasca; "God forbid it get in the water!" she had said before laughing. The tall upright phragmites are healthy, and strong, even standing as they do in the now frozen and stagnant dampness of the ditch. As I continue the ditch fades away and I enter a forest further from the city limits, away the more disturbed lands closer to the highway. The phragmites and knotweed fade are no more as I pass through broadleaf and evergreen forests where the trees are large and the disturbance of urban life feels less present.

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It was Stephen Harrod Buhner that played a substantial role in the popularization of Japanese Knotweed in the treatment of Lyme disease, as outlined in his 2013 book, *Healing Lyme Disease: Coinfections, Complementary and Holistic Treatments for Bartonella and Mycoplasma*. In discussing the shift in distribution of illnesses appearing alongside climate change and other environmental devastations, he notes "the more I learn the more fascinating it becomes to me that so many of the herbs that are useful for these diseases are invasive" (Buhner 2013: 288). Indeed his book provides monographs describing the use, specifically in relationship to the Lyme and its co-infections, of commonly found plants such as Bidens, Woad, Motherwort and Celandine amoung others. Rather than suggesting eradication, Buhner emphasizes the need to understand what precisely brings the plants, and what function they are serving in the environment. It is noteworthy for instance that the spread of Lyme disease seems to fall into climatic tandem with the spread of the particularly useful medicinal "invasives", such a Japanese Knotweed. It would seem then that affordances lead us not only to what a particular landscape might offer an invasive species, but also to what such invasives might in turn afford the creatures



Processing/ brewing Bidens, September 2020.

of its environment. Here we see another kind of potential correspondence. Perhaps as Richard Maybe notes, many invasives or "weeds" "may be holding the bruised parts of the planet from falling apart" (2010: 19).

I wonder how Jacob Von Uexküll might see his famous and much mulled over tick now, carrying perhaps the dreaded Borrelia, Bartonella, and other co-infections that comprise Lyme

disease. As noted in Dorion Sagan's introduction to Von Uexküll's *Foray into the Worlds of Animals and Humans,* "Uexküll sees organisms' perceptions, communications, and purposeful behaviours as part of the purpose and sensations of a nature that is not limited to human beings" (2010: 3). Gregory Bateson too shares something of this perspective: indeed "mind" as understood by Bateson exists outside the boundaries of the human body (Bateson 1972, 334). Circling back often toward the theory of evolution, and turning the great chain of being is turned on its head; here the biological world serves as potential explanation not only of the existence of humanity, but also of mind (Bateson 1972, 256 & 471). For Bateson, perhaps here echoing the concerns of Tsing, it is lack of mind, a lack of correspondence or complementarity, that isolates and fuels "the forces which are today ripping the world apart at its seams" (Bateson 1972, 334).

Indeed Lyme disease and Covid-19 both emerge as pathogens afforded some leverage through not-so-mindful human disturbance. So what then of our human response to such things? Do we fight back against the ticks, the phragmites and Japanese knotweed with poisons with round-up or other chemical defences? Do we send out all the cytokines, preparing ourselves for a real joust, regardless of whether or not the battle is being waged in our very own water ways, ecosystems or cells? Interestingly it seems that cytokine response cascades occur in Lyme disease associated infections as well. Indeed as bacteria become more skilled at inhabiting the human body, they learn to better conceal themselves within cells, wearing down the immune system with the work of breaking down cell walls to attack foreign components (Buhner 2013: 12). In some instances, the stress on the immune system might lead to over activity, assisting stealthy bacteria to use "the body's own immune response for their own ends", feeding as they do off the immune cells and the wreckage of such attacks (Buhner 2013:12). Here the intensity of response is in some sense matched, and escalation made inevitable; until of course the response can no

longer be summoned, or new habits are formed. As such there is uneasiness in balance. For Bateson, balance entails a combination of competition and mutual dependancy (2000: 436). So it would seem that by Bateson's definitions, balance in actuality entails perturbations and struggle that entwine intimately to achieve a kind of interactive balance (2000: 436).

Enter now into the fray again, the dreaded foe, *Phragmities australis*, the Plant that Ontario Nature Magazine dubbed the "killer weed" (Badelt 2017). So desperate have Ontarians been to banish this tasseled waterway colonizer that in September 2017 the Long Point region of Lake Eerie was sprayed with round-up (glyphosate) in an attempt to beat-it back (Badelt 2017: 33). While debates about such strategies continue, it would seem that little is asked about what unique affordances compel the Phragmities. In this, herbalist insights can be helpful in sorting out the possible correspondences at play. In China Phragmities species plants, or *Lu Gen,* have been used for some time (Acupuncture Today 2019). The rhizomes serve to clear heat and to work in association with lung and spleen meridians; further, in containing various nourishing vitamins and minerals, the roots offer up triterpenes, and constituent specific to relieving inflammation pathways regulated by the immune system (Rios 2010). Further, Brand and Wiseman in their *Concise Chinese Materia Medica* indicate that *Lu Gen* is useful for fever, particularly for heat in the lungs and assists with expectoration and coughing (2008: 80). Such indications paint a picture of phragmities potential usefulness in cases of Covid-19. Indeed I am not the only one to speculate as much: Bachir, and Pandiella included *Phragmites* australis in a list of plants with "possible anti-SARS-CoV-2 effects" (2020). Beyond even the medicinal uses, Süleyman *et al* (2015) describe the use of phragmites in a specific region of Anatolia, Turkey as a diuretic, as a food source, construction material and insulation. It seems that phragmites has served to shelter, clothe, nurse, and nourish humanity for some time, a legacy that warrants at least some consider-

ation and reflection. Might it even be possible that this plant is trying to expel putrefaction from wetlands, just as it might from human lungs? As Steven Buhner seems to suggest, this invasive plant may be offering medicine specific to the needs of our current crisis.

Such esoteric musings are all well and good, but what of the very real and troubling threat of invasion? What alternatives might we find to slippery cytokine cascades, to round-up ready remediations, and unwanted incursions? At the risk of sounding irritatingly trite, the most obvious solution is found in prevention; unfortunately such necessities are best recognized with hindsight. For the time being however, learning how to live with the Japanese Knotweed and Phragmities might be our best bet. Why not build with them, heal with them, nourish ourselves with them and see what comes of it; after-all these plants are not endangered and there is no risk of over-harvesting. Consider for instance, the mitochondria, an organelle of the eukaryotic cell responsible for cellular metabolism. Lewin *et. al.* (2003)indicate that the mitochondria, as well as plant equivalent - chloroplasts, were formerly captured bacteria subsumed into the functioning of the cell. In fact the closest known relation of the mitochondria is now believed to be *Rickettsia,* the bacteria responsible for typhus (Lewin *et. al.* 2003). Perhaps there is some comfort to be taken from the thought that even in invasions of a potentially deadly sort, new affordances and correspondences might be forged; sometimes even correspondences of astounding elegance and possibility. Life is innovative, even in the face of sublimation, grief and loss. So perhaps "our imperfect understanding should not be allowed to feed our anxiety and so increase the need for control" (Bateson 2000: 269). Indeed as Alfred Crosby notes, "[t]he colonizing Europeans who cursed their colonizing plants were wretched ingrates" in their disdain for these "weedy" plants holding together the earth that they themselves had loosened (Crosby 2015: 170). Instead we might embrace the possibility of what is not yet known, while still defending what remains. A

herbalist's view, inherently vitalist as it is, offers us then the world as both mindful and alive. This question though of invasion follows us still as we move toward suburban lawns, plantations, and protests.

Chapter 3: On the Policing of “Weedy” Patches



Violets in the park lawn, May 2020

It is May. Despite upheaval in the world, flowers are blooming in all their fabulousness. First Crocuses opened their velvet mauve bodies to the sun, then slowly others followed: Magnolias, Apple blossoms, and the Southeast corner of the urban park near my home is flush with Violets, Self Heal, Dandelion, Creeping Charlie, Celadine, Arjuga and Eyebright. The illusion that this stretch of lawn comprises only grass is, in this moment at least, shattered by the purple, yellow and white of the delicate low growing flowers. I linger in this weedy bouquet. It is undeniably cheerful. I return home after my brief circumambulation with the dog and continue with my day. It is at lunch that I notice the lawnmowers cutting. The blades impose order to the cacophony of colours and texture. All I can see left in its wake is a crisp even green accompanying the smells of chlorophyl mixed with gas.

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This chapter meanders through the processes of noticing, and making meaning with so-called "weeds". These controversial plants are often medicinal; indeed "of the some 330 species" mentioned in Nicholas Culpepper's classic herbal *The English Physician* "about a third would generally be regarded as weeds today" (Maybe 2010: 80). So what is it precisely that makes a "weed" instead of, say, an herb? Richard Maybe's popular work *Weeds: In Defense of Nature's Most Unloved Plants,* he opens with the assertion that "[p]lants become weeds when they obstruct our plans, or our tidy maps of the world" (2010: 6). Oxford English Dictionary definitions offer us an etymology emerging from Anglo-Saxon, Dutch and Middle English roots; all referring to a plant that is undesirable in terms of its beauty, a nuisance, or hinderance to the development of cultivated plants (OED 2020:weed, n.1"). Indeed "Genesis decreed 'thorns and thistles' as a long-term punishment for our misbehaviour in the Garden of Eden" often causing so-called "weeds" to be considered " the Devil's Spawn" (Maybe 2010: 8). Thus there is some kind

of dominate narrative which depicts the success of the"weed" as a human curse; a view that does not go uncontested in the popular imagination. Jeff Hill for instance in his playful 1976 work *Friendly Weeds*, notes that "weeds" are often also considered to be "herbs or "wildflowers" depending on the lens with which they are viewed (6, 61). He feels compelled to clarify, if perhaps cheekily, that "defending weeds in the yard is not a bit like defending roaches in the kitchen" (5). Here he urges us to "[m]ake no mistake about [a weed's] desirability", providing us with recipes, folklore, and medicinal uses for these common plants (5). In the categorization of "weed" a deep-seated tension emerges, a patchy playing out of agendas.

Even amongst typically progressive cultivation movements, this tension between respect for the "weedy" vitality and its condemnation as a curse persists. Emerging for instance from the biodynamic farming tradition, Ehrenfried Pfeiffer's work, *Weeds and What They Tell Us* (1970), remains an important classic work for gardeners and farmers interested in both biodynamic and permaculture methods of plant cultivation. While Pfeiffer speaks from a place that is at times admiring of the tenacity and success of so-called "weeds", he nonetheless uses the language of war and disease in articulating his stance toward them (1970: 47). Advocating for the their total eradication from farmland, he even goes so far as to lay out a plan resembling something of a "war on drugs" or "war on cancer" era mentality *à la* ˆRonald Regan (Pfeiffer 1970: viii-vii). Indeed for Pfeiffer, an emphasis is placed on a paradoxical remembering that "wherever weeds grow, they have something to tell us. weeds are indicators of our failure" (1970:8). According then to Pfeiffer's work, the presence of the say, Curly dock ,or *Rumex crispus,* might helpfully indicate to us a state of increased soil acidity, thus helpfully flagging a soil quality concern that must, in his view at least, be rectified (1970: 22). Interestingly of Plantain he notes only that its presence indicates a hardened soil preferring pathways and surface hardening (Pfeiffer 1970: 36).

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If something other than COVID-19 were to characterize the overall climate of the summer of 2020, it may well be protest. This manifested notably in large-scale support of the Black Lives Matter (BLM) movement after the extrajudicial police killing of George Floyd in Minneapolis on May 25, 2020. While BLM was widespread through the United States, closed borders didn't stop the contagion of protest. On June 5, 2020 a BLM protest on parliament hill turned out to be one of the best attended protests in Ottawa in recent memory, and thousands of people participated. Already a steamy summer I arrived to the event somewhat hesitant, mask donned and hand sanitizer at the ready, the contagion risk of attending such an event was as of yet uncertain and some had advised against it. On social media there had been contention over this fact. Some community members had discouraged people from attending the event which they described as being a largely empty symbolic gesture carrying significant public health risk. While I followed the debate, hummed and hawed, I felt in the end the risk was worth it, as did much of Ottawa it seemed. I was not alone in making my way to parliament hill. When I arrived the lawn was packed. I hung back on wellington street where I found some space, leaning against plywood scaffolding. Volunteers handed out masks and bottles of water and there were speakers, but I couldn't make it out: in the typical fashion of parliament hill acoustics the sound seemed paradoxically muffled by its own echo. To the right of me I see a commotion as a middle aged white women exclaims in excitement "he's here, he's here!". I slowly realize that a fully entouraged Justin Trudeau has arrived and managed to penetrate the crowd. It wasn't the first time the prime-minister had swooped in on events such as these, apparently to protest himself. Newspaper photos would later depict a black masked Trudeau sombrely taking the knee.

Unfortunately despite such intrigue, I had over-hydrated and needed badly to pee. In normal times such a bare necessity would be easy enough to manage; lockdown however had yet to be lifted. City hall I assumed might be my best bet. I set out quickly, only to be thwarted at the door by a security guard. "Can I pee on the steps?" I ask him - only half joking. He chuckles, says "yeah probably" and locks the door. I look around me… the densest brush I can see borders a slope in front of a small military complex of Laurier Avenue. I b-line for the sumac, the foliage dense enough to offer some concealment. When I arrive I see the remnants of an encampment; someone has been sleeping here. My desperate need to pee is regrettable, but options are few. I finally pee in what seems to be an unoccupied corner of this sumac den and hustle back to Elgin and Laurier.

As I arrive back to the crowd once again I see that people are all "taking the knee" in the same fashion as the former American football player, Colin Kapernick. This was held for a full 8 minutes and 45 seconds, the full time during which Eric Garner was pinned to the ground with a police officer's knee to his neck. Everyone, young and old, were on one knee: all that is to say save the cluster of police officers parked so as to block the Wellington at the Elgin st. intersection. I slip into the crowd quietly and assume the kneeling position. Despite my earlier uncertainty and the commotion of the day, I am struck by the sensation created by such an *en masse* genuflection, powerful in its vulnerability. To kneel s in such large numbers in the middle of a busy street was relatively safe given the context, but also somehow noticeably exposed given the short distance from armed police officers: police officers who pointedly refused to participate in this communal grief. Throughout the afternoon we "took the knee" in silence at various occasions, eventually making our way to city hall and the Human rights monument. We kneel again for the last time on the edge of a sidewalk, only this time I look down at the compact dirt just in

front of me to see Plantain, accompanied by another "weedy" companion, Pineapple Weed, a wild variety of Chamomile. The plants hold my gaze as we kneel in silence together for one last time. I leave with a group of people to get felafel. We spread out on the sidewalk with our sandwiches, stretching our legs out into the gutters and dusty streets. I wonder if we are like Plantain, growing in the crevices and margins of concrete, hoping to make way for what is yet to come, that it might be less hard and more hospitable.

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"Weeds" are subject to discipline. Understood both as a curse, and a representation of human failure to fully dominate the landscape, the undeniable vitality of "weeds" seems also to stand as a kind of inspiration for that which persists despite its supposed undesirability. At the heart of this lies culture, or perhaps cultivation, more specifically. Within this we find the tendency to hybridize and select some, and "weed" out others: through this process that which is "cultured" is distinguished from the "wild" (Maybe 2010: 20). Most fascinatingly, it is precisely this dynamic that has given "weedy" vegetation such a leg-hold. For instance, traces of Plantain's pollen indicate that the plant's population spread and increased specifically with the clearing entailed in neolithic farming (Samuelson 2000:2). The leading scientific narrative then assumes that as individual Plantain plants increasingly sought to smooth over our human disturbances, their abundance only increased.

Early European agriculture then set the stage for what later was to become the established power-struggle of "weed" pitted against "cultivar". Indeed in Anna Tsing's conceptualization of the plantation emerges a spectre that under colonial and capitalist logics saw to the disciplining of people, animals and plants for the sake of commodity production and wealth accumulation (Tsing 2012: 149). Tsing elucidates five main facets of the plantation: namely its active role in

the production of race as a concept, its exploitation of alienated labour (whether human, animal or vegetal), the use of multi-species discipline, and the ultimate production of pests and pathogens that spread beyond the plantation (Haraway & Tsing 2019). This institution then served too as rhizome for lines of flight stretching outwards toward the factory, and the coerced discipline entailed in industrialization more generally, reaching not only to the advent of the green revolution and mono-crop agriculture as we have come to know it, but also in formulating and reifying race itself as an imposed mode of categorization (Tsing 2015: 40; Haraway & Tsing 2019). Emerging then from such logics comes the institution of North American policing itself, finding its roots in the creation of Slave patrols and Night Watches used to discipline and control enslaved people (Kappeler 2014).

Green revolution strategies that seek the eradication of weeds find also foundational kinship with the institutions that continue now to bear down disproportionately on formerly enslaved humans; but while one punches down, the other seems to lift up. The suburban lawn too serves too as a means to establish order, or as Richard Maybe indicates, as a symbol of open consensus and unhedged piousness in North American society (2010: 144). From gentry to American dream, the lawn then emerges as both "natural", being green, and "cultural" in its potent aspirational symbolism (Maybe 2010: 144). This aspirational mode is dubbed by Paul Robbins, in his work *Lawn People: How Grasses, Weeds, and Chemicals Make Us Who We Are*, the "becoming [of] turfgrass subjects" (2012: 129). To the seasonal and temporal rhythms of turf-grass cultivars there then manifests a mass genuflection toward the uniform green, the poisoned "weed", the alienated, perhaps even anxiety inducing, worship of the atomized and redundant domestic (Robbins 2012: 131-2). As the plantation and the lawn represent a crystallization of categorical

order, dictating an array of multi-species engagements, so too has the unruly edge along its borders represented a kind of "anti-plantation" (Tsing 2012: 151; 2015: 38).

But perhaps we should hesitate at too firm a reification of this dichotomy, of plantation and anti-plantation. As is demonstrated in Deleuze and Guattari's notion of *l'espace lisse et l'espace strié,* control and chaos are intimately bound up in one another; swallowing one another up perhaps, but ultimately displaying mutual dependance as they move through time and space (1980: 592-93). In the processes of dichotomization there are many gaps, or spaces of patchiness. Anna Tsing in her work *Friction* notes that gaps constitute "conceptual spaces and real places into which powerful demarcations do not travel well." (2005: 175). It is in these gaps that binaries see disruption; of wild versus domestic, of nature versus culture, and weed versus crop, for instance. In this same vein, Tsing later describes a kind of "third nature", a testament to "what manages to live despite capitalism", gesturing to the persistence of so-called weeds (Tsing 2015: viii). Further, "[i]f we release ourselves from the hegemony, we can explore how interactions amoung humans and nonhumans on this landscape create it's patches and trajectories" (2005: 175). In this sense, hegemony is itself a patchwork in which gaps exist, being "neither closed nor isolated; they shift with new materials" (2015: 218). This phenomenon speaks to the nature of convergence, the emergence of "open-ended gatherings" or assemblages amid the patchy fringes of the plantation (Tsing 2015: 218).

While we will return to fertile edges later on, for now, let us think back to the Sumac, the Plantain, and the Chamomile. Sumac, arguably more-so than Plantain, is perceived by humans somewhat ambiguously. The plant is Indigenous to North America, it is tough, sometimes invading the edges of fields, but also used ornamentally and medicinally. Some varieties make wonderful lemonade, others are poisonous and leave horrendous contact dermatitis. The Sumac in-

which I found myself sheltered enough to comfortably relieve myself, inhabited a busy urban corridor. Whether planted or no, it was well established enough to shelter still other inhabitants, human and otherwise. Plantain, though in a less grand and showy way, also managed to offer a sense of shelter from within. It after-all was undoing the compaction beneath my feet, it offered its own sense of softening while remaining tough. So too the Chamomile, famous for soothing even colicky babies, offered a bit of shelter, wafting its volatile oils as our feet crushed it. These all accentuated a sense of kneeling-in, of genuflexion toward the potential of undoing, and redo-ing.

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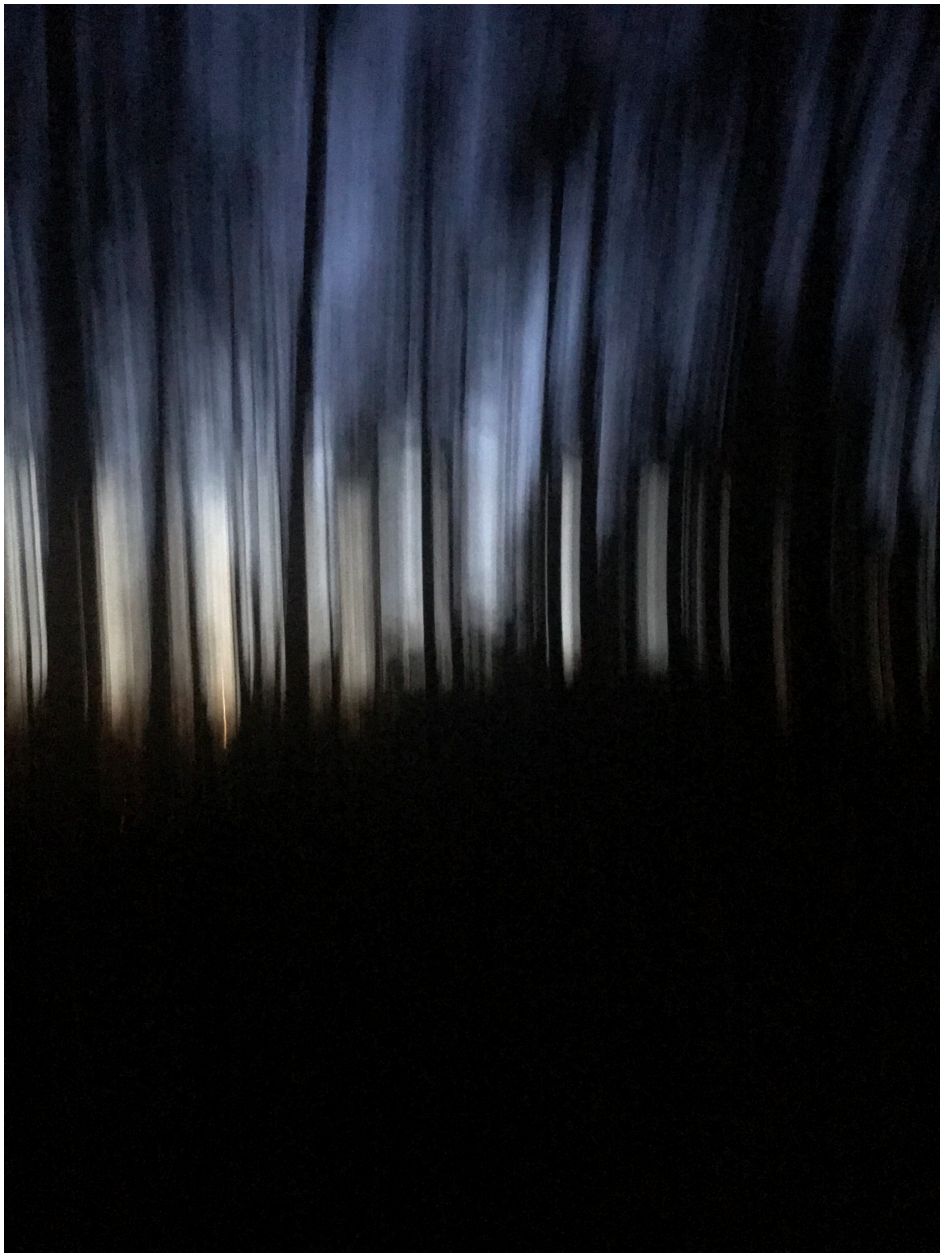
I return to the park a day or so later with the dog: the turf is now not so freshly mown. I look more closely at the once lush basal rosettes of plantain- the leaves may have been cut, but the base and root structure of the plants remains and is starting already to create new leaves. The South east corner was partly missed by the mower, its steeper south facing inclines perhaps ill-fitted to the manoeuvres of the Kubota. *Arjuga reptens* is in flower and creates a full carpet of spikey purple flowers. Lilacs are starting to come in. I stand in awe of this vitality that I feared might now feel like a wreckage. Celandine flashes yellow flowers out near a fence where long tendrils of Creeping Charlie still reach. In that moment as I stare into a mass of blooms, a thought strikes, as though coming from outside of me: what a good tonic all these herbs would make for the winter when the light has only just started to noticeably turn, and we start to long for spring. I gather some of these rambunctious plants, weeds, or herbs or wildflowers depend-ing on your point of view. Together we will make a kind of pharmacopoetic medicine (Chu-

dakova 2017), but first we must lean into the margins of the monocrop, and horrors of the anthropocene.



Plantain, regrowing despite the lawn mower, May 2020

Part II - Horror in the Hedge



Hedge at dusk, May 2020

Chapter 4: Hedge-Walking

My garden, perhaps garishly occupying the front yard of my 50 by 100 foot urban lot, is in many senses open to the world. While a lilac hedge does offer some shelter on the West side of the front, and cedar hedges enclose the back, the front remains open to the South and east. It is far form hidden, but rather unusually exposed and visible. Gardens are often enclosed, or otherwise contained, as was even described by Malinowski in *Coral Gardens and their Magic* (1935: 15). In Europe this practice has been historically laden with significance and controversy. As Wolf D. Storl in his work *The Untold History of Healing* notes, in neolithic Europe hedges developed where man made clearings met forest, creating environment hospitable to thorny and diverse vegetation (2017: 99). With this division came a worldview more easily divided into wild and domestic, the encircling hedge enclosing an "island of peace" (Storl 2017: 99). While this chapter's exploration is then about hedgerows and corn fields, at its core, it delves further still into the liminal horrors and possibilities of transitions. As such we return to the hedge, and to being, as Turner so famously put it, betwixt and between (1965: 93).

As alluded to above, Hedgerows constitute marginal semi-wilderness encircling fields. In their history of the hedgerow Barnes and Williamson note that "while in most districts of England a hedge is a well-defined, relatively narrow affair, in some areas wider and more sprawling strips of vegetation divide the fields, blurring the line between a hedge and a linear wood" (2006: 2). British medical herbalist Jo Dunbar has suggested, "that since the beginning of human history, our [presumably British] ancestral roots and those of the hedgerows have been intimately entangled" (2016: 1). Thus for Dunbar, the weedy herbs of the hedgerow offer not only food, medi-

cine and folklore, but harken to an earlier Anglo-Saxon era of magic and animism (2016: 2). Such romanticism then inspires her call toward re-enchantment and a close study of the cyclical rhythms of vegetal life (Dunbar 2016: 4)

This history of the hedgerow is nonetheless fraught: processes of dispossession from lands held in common in Britain came to rely heavily on maintenance and materiality of the hedgerow system (Blomely 2007:5). Silvia Federici for instance notes that the European enclosures, starting in the 16th century, entailed the elimination of communal lands in favour of a consolidation of feudal holdings (2004: 69). The enclosure of these previously un-hedged communal fields then came with the destruction of shacks and villages, and unsurprisingly, with protest (Federici 2004: 69-70). These uprisings often focused their attack on the hedges themselves, uprooting and "casting down" the vegetation (Federici 2004: 73). Much like the plantation, the hedgerow too was transplanted through processes of colonization, serving as a liminal device that demarcated privatized lands. Nonetheless the romantic view of the hedge persists, due in no small part to its history and associated nostalgia (Blomely 2007: 6). Even as access to forests and commonly held lands were diminished, hedgerows remained accessible, both for food and medicine.

The hedge in essence *is* the unruly edge, bordering pastures, plantations, and industrially mono-cultured fields; but it is also a site of contamination and salvage accumulation (Tsing 2015: 64). As such, the hedgerow, like Tsing's Matsutake forests and her fruit bearing forests of Borneo, represent a persistence of interspecies sociality (Tsing 2015; 2005: 190). Plantain, alongside its paths, people and hedgerows, represent a kind of the anti-plantation; a riotous, unconfined and marginal phenomena (Tsing 2015, 38). As such, "open-ended gatherings" seem to occur in these spaces which shift through time and circumstance (Tsing 2015: 218). In Ingold's discussion of



Walk along the hedge, Central Experimental Farm, Summer 2020

Deleuze and Guattari's *espace lisse* and *espace strié*, we see that with the formation of grids and regimentation, fluid patchworks are also made (1980: 342-343). Consequently, by imposing the grid of the plantation, so to is the unruly edge and hedgerow made.

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So here then, straddling the realms of domestic, urban and wild, I propose a herb walk. Herb walks typically entail a slow paced stroll in which plants are happened upon, discussed, identified and sometimes tasted. These excursions are a fundamental part of the herbalist's practice. They invite the curious public into the possibility of seeing beyond the green wall of plant blindness, and of course, into the possible therapeutic relationship with plants and with herbalists. In the summer of 2020 of course these events were few, and took place mostly online, changing the feel and format somewhat. But why not come along with me on a walk here and now through this text? Given the unusual forum of this walk we are afforded different opportunities after-all: why not visit the landscape in any season, scroll through time and space as though it were a sensorial experience that could be readily summoned? Perhaps we may benefit from the now immaterial reality of these wanderings past, folding the extraordinary and the mundane in on one another, charted like layers in a map. Writing after-all is a kind of cartography, and we are heading to Canada's central experimental farm: home of the spider gene spliced goat, whose fibrous milk offered silken threads for the production of bullet proof vests (Deleuze & Guatarri 1980: 9; CBC 2012). How could this not be the stuff of both dreams and nightmares?

Our foray then comprises a kind of patchwork of seasons past, dreams, and possibilities. In these times of viral plague, have our dreams have after-all intensified as the separation of day and night lack the structure afforded by a physical departure from the domestic sphere (Neilson 2021). So we begin across the park which we have already visited, yes the one with flowers dotting the lawn in May. We will pass the gargantuan balsam poplar, whose buds make such exquisite ointments, balm of Gilead, when macerated in oil. There are still a couple of these old timers left, this despite the fact that winter storms and pestilence have take their toll of these magnificent trees. We continue toward the traffic lights which usher us into the experimental

farm. Perhaps here, depending on the season, we will see Alfalfa, Chickweed, Red clover, Plantain and other medicinals lining the space between path and field. You may wish to avoid consuming anything found near the fence however, these fence-lines seem to get habitually sprayed with herbicide. In some areas long swaths of prickly plants will suddenly turn brown and crisp in summer as the surrounding vegetation remains tellingly green and lush.

For now we will pass through the maples so open and transparent in winter, so sheltered and enclosed in summer. In the heat of summer the temperature will suddenly shift as you leave hot open field behind. Keep your eyes peeled here, can you spot the red currants by the trail? Be careful though as there is poison Ivy too! It is covert and inconspicuous, but for in the fall when the leaves scream out their angry red. In spring this dead log over to the right is laden with dryad's saddle, an edible, if not particularly medicinal, mushroom. With fall comes an abundance however of the gleefully striped turkey tail, and maybe, just maybe, Reishi fungus on the old Hemlock stump to the left. This red leathery mushroom was so prized that Chinese emperors of old forbade their subject's use of the mushroom, reserving its consumption uniquely for the emperor himself, granting only him its supposed immortality (Rogers 2011:174).

Onward then, do you feel a difference here, a change in atmosphere? These are the white pines, do you notice how they encircle this hill, ebbing away as the terrain dips and becomes wet. Kin to the tallest tree in all of Ontario at a towering 154 foot in Gillies Grove, Arnprior, these majestic beings used to reach heights of 200 feet or more (Anderman 2017: 90). Close your eyes for a minute, scan your body and notice what is happening. Once that is done, smell the pines, notice them. Does anything shift or release after this subtle breathing in of terpenes and limolene? It is the white pine that the Haudenosaunee nation called the "'the tree of peace', after the

Peacemaker and Hiawatha encouraged them all to bury their weapons of war under a great White Pine at the beginning of their confederacy, at least 600 years ago" (Anderman 2017, 90). Take note as we stand here on this elevated ground of the shelter provided by this thin strip of woods, boarded on one side by Fisher avenue, and by farm fields on the other. Here the pines mediate this relationship of urban wildness. It is near the pines after all, right by that opening in the fence to the east of us, that my dog Ursa stared down a coywolf[1] one evening when the whole place was coated in a firm icy crust of snow some winters ago. But this bit of forest is a space in which humans dwell at least as much as much as pines and coywolves. Through the various limitations of social distancing and lockdowns, it is on the low-growing branches of pines that human forest dwellers might be found doing chin-ups, desperately seeking some substitute for the release afforded by a gym. Two conical huts also slowly took form over the summer and fall of 2020. Built of fallen branches, and living undergrowth, contorted into the conical swirl of this abode. Tents too appeared here in the winters months.

Onward now from the welcome lull of the white pines, down the hill raspberries await! In July and august they hide in the green foliage with modest red and black berries, their leaves astringent and useful in toning teas for all conditions of pelvic bogginess. Selfheal and Plantain grows here too, in this wet and mucky bit of trail. In the summer the small purple flowers of self heal and broad leaves of Plantain remain big and lush even as summer's heat pushes them out of the fields edges. But as we pass through a walkway of Scotch pines, the path opens to a small clearing. Here in the denser brush to the left we will find cramp-bark. Do you see it there with its grey branches in spring? … ah yes well it is hard to identify now, but this is the time to harvest

[1] A coywolf is a mix of wolf, coyote and domestic dog thought to be better adapted to an urban environment.

bark. In fall, it produces high-bush cranberries, sometimes accused of tasting like dirty socks, at other times considered delicious (of course taste and variety both seem to play a role here). Crampbark is also a splendid anti-spasmodic that, just as advertised, relieves cramps of all kinds as it relaxes muscles (including the heart, often lowering blood pressure). Across the way now, on the other side of the pathway, just before entering the field however is the stand of goldenrod. In fall yellow sprigs will waft in the breeze. Fear not! this flower with its heavy pollen is not the culprit responsible for your seasonal allergies, but in fact its potential antidote if taken as a tea. Surely now, you see the corn field just beyond, the trodden path in spring, damp and full of the dependable, poison drawing, wound healing and gut astringing Plantain. Indeed, this wayfaring waybread has brought us finally to the corn.

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Dreams are important for a lot of herbalists. In my own herbal assessment with a more advanced student, Abrah asked me about a dream I had mentioned in which I existed as an entity outside of my own body. Looking down on my body lying in bed I entered my sleeping self, plunging through my skin into my mysteriously achy left kidney. She had me close my eyes and feel myself in the dream again, to feel the different recalled elements of the dream. Abrah came back to me later with the suggestion that this dream perhaps supported my use of the herb Self-heal, a plant I had been taking as a tincture which is known to support kidney function. This experience aside, it is rare for me to have explicit dreams about medicinal herbs. I did however, over the course of the past year seem to have several dreams about corn.

In the fall of 2019 I had a somewhat distressing dream about climbing a large and dangerous seeming pyramid on the University of Ottawa campus. Once partway up I make it to a

hardware store. I relax as I realize I do not have to go further if I do not want too, and opt instead to shop for a rug. Suddenly then I am disembodied as the dream shifts. I begin to float in front of, and slightly above, a young handsome man dressed somewhat absurdly in some flashy robes and the headdress of an Egyptian sphinx. A kind of omnipresent voice introduces him to me as a corn god. The voice proceeds to narrate, in an alarming fashion, the various harms to which corn has been subjected through genetic engineering. At one point the corn god speaks to me in Spanish with notably Mexican turns of phrase. Though I don't recall the specific words, his tone is almost plaintiff, reminiscent of a child. The corn god then, on the verge of being injected with something, becomes increasingly distressed. Suddenly however it is me who feels a a novocain-like injection in my jaw. It is viscerally painful, and we both seem to cry out. Afterward there is a great swelling, from which I can feel heat and inflammation spread and radiate outwards. I wake up suddenly with a sense of urgency about the whole thing, as though I was mean't to do something meaningful about the whole thing, though I don't know precisely what.

This dream in many senses comprises an easily ignorable mishmash of my unconscious, but it is in this unconscious, or perhaps vegetative realm, that plants and mammals find also some sense of shared common ground. Indeed just as "much of our psyche is swathed in the unconscious", so too is this "the medium of vegetal existence" (Marder 2013: 176). But is there not also a kind of "agribusiness" logic in the "need for explanation", after-all "why is one required"(Taussig 2015: 6)? Is the rational science of agribusiness not itself "using magic to seem as if having none" (Taussig 2015: 7)? In his exploration of Fraser's much discussed corn wolf, Taussig notes that the sacrifice of the gods has long been a preoccupation in agrarian societies, the Egyptian corn god Osiris included (2015:3). Indeed he emphasizes that "it is worth thinking about the disappearance of the vegetable god and its sacrifice", after-all "[i]n the super-

market there is no last sheaf" (Taussig 2015: 3). This last sacrificial sheaf comprises three things, namely some animate essence from within the last sheaf of harvested grain, the sheaf of grain itself, and the human responsible for this ultimate harvest (Taussig 2015: 2). Here there is a sense of an animating, or perhaps in the case of my dream, horrifying essence.

This first dream was the most striking, and viscerally disturbing. Its lasting influence motivated my winter-time purchase of a heritage variety of corn seeds so that I might experiment with growing them in my garden, something I had attempted only one other time and without success. These seeds I imagined might offer a contrast to the monocrop corn fields, more closely resembling the *razas de mais;* a series of ever shifting, species defying, and Indigenous corn varieties of central North America (Hartigan 2017, 35). I prepared a special new bed for the corn full of compost and planted the precious kernels of my Dakota black popcorn. My small black corn kernels did grow into tall a sturdy plants over that spring and summer, and as they did, a couple of other fleeting, perhaps "lesser" corn themed dreams surfaced. In one of them a friend of mine is sitting on the floor chewing up corn and spiting it into a pot to make *chicha*, or corn beer. The other dream consisted primarily of a fleeting image of a particularly striking ear of heirloom corn: the kernels are multicoloured, some dark red, yellow, white and others beautiful translucent blue. Perhaps it is no surprise given that circling a corn field comprises a near daily occurrence for me, and the Dakota black corn stalks became a notable part of the view from my window.

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Returning now to our cornfield, imagine that it is August, that the stalks are tall and neatly arranged in rows. Is part of you apprehensive? Do visions of Steven King's *Children of the*



Huitlacoche, Central Experimental Farm, Summer 2020

Corn come to mind? While as far as I know, no child led cults currently make sacrifices to the corn fields of Ottawa's experimental farm, there may be other causes for concern. These fields have in fact been sprayed, as can be seen this lack of "weeds," the compact and mostly lifeless soil, and in the dead skeleton of Manitoba maples and Burdock plants that line the fences in a long grey strip. So let us gather then at least at the edges and corners of the field, the corners sprayed less frequently. We can tell the fungicide has not made it here: take note of the dark cancerous looking mass which spews black spores. This is the fungal corn parasite known to some as corn smut, and to connoisseurs of Mexican cuisine as *Huitlacoche*. It comes from the nahuatl term *cuitlacoche*, literally translating to mean "sleeping excrement" (Rogers 2011: 433). I would

encourage you to taste this one, but who knows what kind of corn this might be. Its destiny could for all I know, be for ethanol enhanced gasoline. I will confess that curiosity overcame me once, and I did taste it, but the flesh had a sickeningly sweet quality to it, the shock of which made me spit it out. Frequently eaten in tacos and other dishes, *Huitlacohce* from safe and consumable corn strains are used to relieve ulcers, and to treat issues related to poor cerebral circulation (Rogers 2011: 435). The *Huitlacoche* and the corn silk were all I managed to salvage from my corn harvest, ravaged on the verge of ripening by merciless squirrels. Somehow though, the corn here remains largely untouched.

We continue now to the dead wood pile. The wood here is stacked high with the gargantuan trunks of the arboretum's fallen giants. What might have been the downfall of these gargantuan trees you ask? While some bear the traces of emerald ash borer, others seem to have met more mysterious ends. We might seem to have strayed from our purpose of exploring hedgerow herbs, but looking at the horrors of disease is important to understanding medicine. Death, even in the face of the strongest medicine also remains certain. But even here in this graveyard of trees, there are mushrooms, nettles and catnip that seem to feed off the nutrients and decay. Where once upon a time before the Covid-19 pandemic this ghostly wood pile might have been reasonably secluded, now dogs and restless humans mill around this accessible, semi-urban space, eager for reprieve from "lockdowns" and "stay at home orders". So now as dusk falls on this strange mix of urban, wild, and rural, notice the orange glow from the greenhouses. Bats whizz overhead, and maybe even a coyote, or perhaps coy-wolf, howls in the distance. Through all this, we are left not only with the contrast of field and hedgerow, but also to a quickening sense of night's encroachment. Fear of the fields and forests at night, of the beasts both crepuscu-

lar and nocturnal might just find its place in a horror film. But is our fear better projected from/ onto the fecundity of the hedge, or the carefully guarded uniformity of the monocrop?

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Maria Pérez Cuervo notes in her work "From his blood the crops would spring" that the folks horror genre, finding its origins in the Victorian era, borrows heavily from the work of anthropologist James Frazer (2019: 27). Frazer being a proponent of cultural evolutionism, such themes carry thorough to folk horror genre; indeed fixations concerning the possibility of evolutionary regression reverberate through the cannon (2019: 27). English Edwardians and Victorians typically regarded the countryside "as a place anchored in the past, it's inhabitants unknowingly performing rituals that had suffered few altercations since their origins" (Pérez Cuervo 2019: 28). Indeed Ottawa's Dominion Arboretum and Central Experimental Farm itself both comprise colonial transplantations of such bucolic hedged-in landscapes of the old world; but while this "old world" carried with it the "backwardness" of "regressive" folk traditions, the central experimental farm was instead thrust forward as a bastion of "rationality" and "progress". So as Pérez Cuervo notes that victorians saw folk horror emerge from confrontation with a supposedly irrational past, we stand here now on the edge of corn fields whose soil fertility is questionable, and whose existence requires serious fossil fuel derived inputs (2019: 26). Is this mono-crop plantation then not a ruins in the making (Tsing 2015: 6)?

It would seem that the world ripping calamitousness of the plantationcene encroaches even on the hedgerows, the physical enclosures that made the plantation possible (Haraway&Tsing 2019). So too when the discipline and maintenance of the corn fields falters, life in all its diversity oozes out. Mimicking then Deleuze and Guatari's *espace lisse* and *espace strié,* neither

hedgerow nor field would exist but for their mixing, their push-me / pull you of give and take (Deleuze and Guatarri 1980: 593). It is from the vantage point of the hedgerow however, that we are reminded of the persistent strength of diversity, of lateral rhizomic variation (Deleuze & Guatarri 1980: 13). In the dutiful maintenance of these fields, in the pulsating cyclical repetitions inherent to cultivation, and to the sacrifice of the corn wolves in the last sheaf, there is an allusion to a sense of "unescapable" ritual that "will forever be replicated" (Pérez Cuervo 2019: 31). Turning back however to Jo Dunbar, to her marking of time in the hedgerows by gathering its medicinal plants, there is a gesture to living with seasonal flux and variety (2016: 4). Indeed the word "hedge" shares some etymological affiliation with both "hag" and "hex", holding to a strong feminine root represented in the Old High German *hagzissa*, or "hedge sitter" (Storl 2017, 104). Perhaps then the rhythmic following of medicines offers us a chance to once again perfect the art of hedge sitting, of embodying the hag who lingers by the forests edge, ready always to witness the life, death, and rebirth of change. In this perhaps there is a readiness to bind with the last sheaf, to conspire and to enchant in a shamanic kind of liminality (Taussig 2015: 3).

Chapter 5: On Witches and Understory Plants

As I recall, at our first meeting for Abrah's apprenticeship program in September of 2019, the topic of witches came up. Abrah was explicit about how it had taken her a long to time to accept and become comfortable with the term "witch". Indeed there was a general sentiment of reticence and uncertainty about the term. As medical herbalist Jo Dunbar describes it, "[m]any herbalists still suffer from a sense of 'inherited trauma'" and while this likely manifests in many ways, she notes that often herbalists "tend to be a little quiet about their work" (2016: 81). Dunbar expands here in saying that "even I don't like having to explain to strangers why I am collecting a basket of herbs in the hedgerows" (Dunbar 2016: 81). Indeed "witchiness" seems to be intuitively bound up in the popular imagination of what herbalism is, a profession that entails the making of potions, and perhaps also a bit of magic. So while any current perusal of instagram or Etsy makes witches out to be sexy and desirable, it might not now feel evident that in other places and times, association with witchcraft has meant death. In Europe at least, the grand total of supposed witches sent to their death is unknown, though the consequences of these events have been lasting. Serving as a follow-up to the persecution of heretics which gained pace through the 16th century, witch hunts occurred as pestilence decimated the population, and while famine due to blight (specifically rye ergot) set in (Storl 2017: 227). Despite various notable exceptions, those persecuted were mostly women, and when burned at the stake, these "heiresses of the old heathen seers" took much of their shamanic knowledge and traditions with them (Storl 2017: 228).

Midwives, or "in-between" women, were targeted in particular during this time for their specific knowledge of birthing practices, and frequently accused of killing children (Storl 2017:

257). As medicine became professionalized, birthing became a terrain of conflict: increasingly taken up as the domaine of male practitioners while women midwives began shying away from the profession for fear of witchcraft accusations (Storl 2017: 258). At the height of witch-hunts, all things pertaining to birthing and women's health, particularly contraception and abortion, were subject to associations with black magic (Riddle 1997: 93). Indeed midwives were targeted for their ability to kill a fetus in the womb, a "practice common to all witches" (Riddle 1997: 111). Various accounts further bemoaned midwives who had "instructed young females how to use abortion medicines" (Riddle 1997: 112). Nonetheless, there remains some question too about whether the midwives who persevered began to police other women's reproductive lives, specifically concerning their use of abortive or contraceptive herbs as a means of securing their own safety (Federici 2004: 184). Such uncertainties aside however, women reportedly died at rates three times higher at the hands of physicians than those of midwives (Storl 2017: 258). To have so many women stymied in birthing surely portrays a terrain "suffused with bad death ghosts" (Tsing *et al* 2017: 7).

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It is May 2020, and Abrah has messaged all of us apprentices: there are new developments going up around her property, and the endangered Trilliums and Blue cohosh that grow there will be bulldozed. As such, she encourages us to come and relocate them if we might be able to re-home them. I think of course of the forests of the *réserve faunique* and the space there that might accommodate the relatively rare White trilliums. Blue cohosh however is an even more uncommon find. Knowing that I will be able to find space, I offer to collect some. When I arrive at Abrah's we make our way down the road to a lot which -at present -contains a mixed hardwood forest. The bugs are intense with both the black-flies and mosquitos out in all of their

ravenous glory. We see vehicles and realize that people are there: "we'll have to ask them…" Abrah says. We approach a man with his two children with our unusual request, and he seems perfectly happy to have us dig up plants. We unearth trilliums and Canada lilies, though no blue cohosh seems present on the lot. As such Abrah brings me down to an ATV chewed trail in the woods close-by. Through the thick haze of the bugs Abrah soon spots a Blue cohosh plant growing into the edge of the trail. She notes that this is a good one to take given its proximity to the through fare, and high likelihood that an ATV will eventually crush it. She speaks to the plant " Alright Blue cohosh, we're going to move you to a new home now, ok?". I dig it up, gathering soil, Abrah encourages me to take more, "this will have the mycorrhiza it is used too" she says.

As indicated by Matthew wood in his work *The Earthwise Herbal Volume II*, the presence of Blue Cohosh, or *Caulophylum thalictroides*, often indicates that the wood in which it was found has never been subject to grazing and "never lost its basic integrity, although it may have been subject to heavy or light logging" (2009: 98-99). The plant has a long history of use by North American Indigenous women, and was used in hastening birth during a difficult labour (Wood 2009: 99). The name Cohosh, attributed to various herbs, reportedly means "gnarly root" in Algonquin (Romm 2011: 131).While earlier colonial accounts of using the herb recommended it as a low dose tonic in preparation for labour, it was subsequently used at higher doses to induce partus (Wood 2009: 99). In general the non-professional use of this herb to induce labour is now discouraged due to its association between use in late pregnancy and myocardial infarction in the infant (Romm 2011:130). In class Abrah shared that she suspected these impacts on babies were likely connected to the use of alcohol extractions of the plant favoured by Europeans and their descendants. Indeed the potentially hazardous alkaloids and cardiac glycosides con-



Blue Cohosh and Trillium flowers, Spring 2020

tained in the plant are more highly soluble in alcohol, rather than in the water extracts which were more widely used by Indigenous peoples in North America (Romm 2011: 130). Blue cohosh has also been used to restore fertility in older women due to its estrogenic properties, and to relieve uterine congestion (Wood 2009: 100). Overall it is a "relaxing remedy for contracted and tense conditions" serving as a muscle relaxant that might have cardiovascular uses (Wood 2009: 101).

Like Blue Cohosh, the Trillium, *Trillium cernuum,* also has a three fold leaf considered by Eastern woodland people of North America to be a symbol of the midwife and birthing woman. Trillium root is used specifically to "bring down the baby", but also helps the uterus to retract after birth, and reduces post-partum bleeding (Wood 2009: 338). Aviva Romm recom-

mends it specifically for haemorrhaging during miscarriage (2011: 237). Overall the plant aids in toning the tendons and muscles of the legs and pelvis, also serving as a specific for endometriosis (Wood 2009: 338). Otherwise the herb was traditionally used in various cases of haemorrhage and putrefaction thereof, such as in tuberculosis, or even as a poultice in the treatment of gangrene (Wood 2009: 339).

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The commencement of witch-hunts had marked a shift. Prior to these events the use of herbal contraceptive and abortifacient herbs was more or less tolerated by the church through the middle ages; that is, should a woman choose to do so "on account of the difficulty of feeding", and not if she "acted to conceal a crime of fornication" at least (Federici 2004: 92 & 40). This might conceivably have been a carryover from greek and roman times when the much desired *Silphium*, believed to be relative of fennel, was likely harvested into extinction for its desirable contraceptive properties (Riddle 1997: 105). Further, many medieval herbals openly discuss abortifacient herbs and emmenagogues, herbs for " for women who cannot purge themselves" and that need something to "moves the menses" (Riddle 1997: 90). So it was in this climate then that the following question was frequently posed in medieval confessionals: "Have you drunk any *maleficium*, that is herbs or other agents, so that you could not have children?" (Riddle 1997: 88). An affirmative answer to this question resulted in a mere 40 days penance (Riddle 1997: 88). This after-all was a context in which cathedrals had been built in the image of forests lost to Roman invasion, and in-which the abbess, and saint, Hildegard Von Bingen's animist style of mysticism was indicative of the incorporation of shamanistic practices into catholicism and everyday life (Storl 2017: 221).

In the 16th and 17th centuries however, a "women's' control over reproduction seemed to pose a threat to economic and social stability", particularly after the deaths incurred during the European "Black Death" created labour shortages that held the potential to upend the stability of the church and feudal lords (Federici 2004: 40). What is clear is that the "criminalization of contraception expropriated women from the knowledge that had been transmitted from generation to generation" (Federici 2004: 92). This effectively "degraded maternity to the status of forced labor", while simultaneously redefining women as non-workers, further diminishing their domestic toils (Federici 2004: 92). While knowledge and use of herbs, particularly concerning contraception was targeted through the witch hunts, information was still successfully safeguarded in some cases while being "driven underground"(Federici 2004: 92).

It is noteworthy that witch hunts accompanied enclosures and dispossession from the land, a process discussed in previous chapters. Indeed both movements occurred in tandem with a general aim toward the "primitive appropriation" in social access to women's bodies and women's labour. Silvia Federici notes for instance that "proletarian women became for male workers the substitute for the land lost to the enclosures, their most basic means of reproduction, and a communal good anyone could appropriate and use at will" (2004: 97). The wave of misogyny that accompanied witch hunts served then to "liberate" women "from any impediment preventing them to function as machines for the production of labor", thus repopulating a peasantry and workforce decimated by disease and famine (Federici 2004: 184).

It took nearly two centuries of church and state terrorism before, at the end of the 17th century, the ideal European woman had been rebranded as generally "passive, obedient, thrifty, of few words, always busy at work, and chaste" (Federici 2004: 103). Indeed in targeting women for witch hunts, there had been an organized attempt to root out women practicing the following:

> "(1)… fornication and adultery; (2)" obstructing the generative act" by rendering men impotent; (3) performing castration and sterilization; (4) engaging in bestiality and homosexuality; (5) "destroying the generative force in women"; (6) "procuring abortion"; and (7) "offering children to devils" (Riddle 1997:111).

While all listed reasons are highly sexualized, and/ or pertain directly to reproduction and birth control, they also served to undercut women's autonomy and power more generally. Indeed these campaigns had effectively decimated any vestiges of matriarchal power that had lingered through medieval society and the supposed "dark ages". While it is at times erroneously assumed that the coming of enlightenment rationality offered relief from witch hunts, supernatural magic nonetheless remained plausible to many early enlightenment rationalists (Federici 2004: 202). What was newly imposed was a vision of the family, "modelled on the state, with the husband as the king, and the wife subordinate to his will, selflessly devoted to the management of the household" (Federici 2004: 191). As such, "[i]t is no exaggeration to say that women were treated with the same hostility and sense of estrangement accorded "Indian savages" in the literature that developed on this subject after the conquest." (Federici 2004: 102). Indeed women on both sides of the ocean were subject to projects of "expropriation"; while the demonization of Indigenous people justified "their enslavement and the plunder of their resources", in Europe, women suffered "the appropriation of their labor by men and the criminalization of their control over reproduction" (Federici 2004: 102).

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It was years ago that a friend of mine pointed out the wild leeks poking out of the woods and lining roadsides to my parent's property near a wildlife reserve in Quebec. I was already somewhat familiar with the plants, after-all their bulbs are sold every spring in Ottawa's Byward market, but it was sometime before I was made aware of their endangered status, at least in Quebec, if not Ontario. Living under canopies of maple, the wild leeks, or ramps, pop up only in ear-

ly spring, before leaves can interrupt the light's passage to the forest floor. This triumphant extension toward the sun is all too brief, lasting only a few weeks every year before they die back and retreat into their bulbs. This short stint of sunbathing translates into starchy energy stored and conserved for sustenance for the entire year. Indeed it takes seven years before they reach their maturity, the point at which the leeks might finally reproduce. These slow reproduction rates mean that populations of these desirable and tasty plants can be easily decimated. Shovelling out whole stands of the leeks can devastate the population, contributing to the species' stringent protection in Quebec. Conservative and careful harvests however, loosening the soil around roots, can help the populations thin and more easily reproduce. I have always found it puzzling that conventional harvests of the bulbs rarely involve use of the leaves, even though this much simpler harvest is still delicious, and less damaging.

I have watched this patch of leeks now for years, visiting every spring as the fiddle heads emerge, just before black-flies and leafy forest canopies appear on the scene. This springtime vegetation holds its own kind of enchantment. Tiny flowers blanket the forest floors with their pale pink delicacy, while Trilliums, both red and white, and Jack-in-the-pulpits provide occasional splashes of colour. The air holds the lightness of this flowery aroma. It is the trout lilies too emerging with the pointy, mottled leaves, which I sometimes mistake for the wild leek, though now, with time, my eyes have become more habituated to their differences. It is always a joy to see the lime green blankets of the leeks, stretching far and wide when undisturbed. I do harvest the leaves, adding them to salads, stirfrys and soups. They are amoung the first edible greens of spring and certainly the most anticipated.

It was in the spring of 2020 that I noticed the neighbours had a small patch of wild leeks on their property. I was stunned to see them this far from the larger patch further down the road.

Out one day, looking for appropriate homes for Abrah's rescued Trilliums I spoke with the neighbours and offered them some of the bulbs. I gushed over the small patch of leeks on their land. They somewhat bashfully told me they had transplanted them successfully from the larger patch and that they had grown since the initial transplantation. I was impressed, and inspired. In this private subdivision this huge patch of wild garlic was bigger than any I had ever seen, but in the *réserve faunique* just adjacent, I had never seen a single plant. While I had previously wondered, what might happen if the leeks were transplanted, I now had encouraging evidence to suggest success. I had noticed that the leeks liked east facing slopes and moisture, and set out that afternoon with a backpack and trowel, collecting several leeks and dispersing them into appropriate hillsides. If human meddling has done them harm, why not also put our meddling capacities to their procreative disposal? At the end of the day I had found more leeks than suitable spots in which to plant them. I decided then to bring the remainder back for Abrah, so that she might spread some throughout her woods as well.

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With European expansion to the Americas, the logic of witch hunts came to be imposed on Indigenous people, particularly in the Andean context (Federici 2004: 220). Here too it served as a deliberate means to enclose "land, bodies or social relations" (Federici 2004: 220). The targeting of animist traditions tied to the land then served as part of the colonial and capitalist means of consolidating power; after all, people who held a "molecular conception of the diffusion of power in the world" were less prone to disempowerment (Federici 2004: 174). As such, "the capitalist organization of work must refuse the unpredictability implicit in the practice of magic, and the possibility of establishing a privileged relation with the natural elements" (Fed-



Transplanted wild leeks, Spring 2020

erici 2004: 174). Connections then to hedges, forest, gardens, and the plant life therein, offered a kind of animist character to the practice of herbalism, and one that afforded some autonomy to women practitioners and their communities. In order to seize power then, a break with the land and with the knowledge and practices of these women had to be manufactured. In short, "the world had to be "disenchanted" in order to be dominated" (Federici 2004: 174).

On February 14, 2021, coincidentally marking the twenty year anniversary of the women's memorial march in downtown Vancouver for missing and murdered Indigenous women, while walking through the hedge forest on the edge of the farm, I noticed a series of photos and bits of red cloth wrapped and tied as though they were small dresses dancing in the

breeze. Indeed the whole corridor through the forest had one of these markers placed at least every 30 feet or so. The absence of these women was written onto the land. I couldn't help but wonder then, might the targeted deaths of these women resemble in some sense the witch hunts of Europe? If so, was this the "ultimate mimetic" moment, as Michael Taussig describes where slaughtered women "passed into nature", and also where this outdoor installation formed a kind of "countermagic, *apotropaic* from the ancient Greek meaning the use of magic to protect one from harmful magic" (2020: 110; 2015: 10)? The loss of women hits home particularly in the context of Indigenous matrilineal societies, where in Canada the policies of the Indian Act have been an explicit tool used to disenfranchise Indigenous women, thereby rendering Indigenous communities more vulnerable to the expropriation of lands and resources (Anderson 2016, 93-94; Bourgeois 2018, 80). Indeed forced sterilization of Indigenous women is known to have occurred as recently as 2018, and may well be ongoing (IJRC 2020). Kim Anderson in her book *Life Stages and Native Women*, when she notes that"[e]lderly women held the fires of their nations"(2011: 159). Perhaps akin to the hag, or hedge sitter, discussed in the previous chapter, Kim Anderson describes how elderly Northern Algonquian women were not only the heads of their families, but frequently relied upon for the safety of the community, the education of children, assistance at births/deaths, and as storytellers: essentially they are the "keepers of the laws" (2011: 159). In quoting an elder, Anderson notes that " '[n]o nation ever existed without the fortitude of our grandmothers' " (2011: 3). It is notable then too that the domestic enclosures of COVID-19 have also taken their toll as rates of femicide and violence against women in Canada have increased through the pandemic (CBC News 2021).

Luckily though, these enclosures of capitalist enterprise, so intimately linked to colonial expansion, have never been total. While the uprooting of an "animistic conception of nature" in-

herent to supposed witchcraft and women's use of reproductive herbs was largely uprooted, it was never fully eliminated. Indeed , in the process of learning to know "what not to know", "this knowledge was not lost, but was only driven underground" (Taussig 2020: 115; Federici 2004: 92). While enclosures have done undeniable damage to animist traditions all around the world, these were also undoubtedly devastating in Europe. Nonetheless, knowledge of herbs has persisted, and still offers a European sense of animist connection to the land and to reproductive health. There is still a birthright here, one in which we could be willingly "caught" (Favret-Saada 1980: 14) ; one which we could pick up and make anew.

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The ginseng seeds have come. The Richter's catalogue indicates that they ship pre-stratified in the fall ready for immediate planting. Somehow during the previous year I had missed this. The seeds had arrived only to be left to putrefy until spring in their cellophane packet. I planted them anyway on the off chance they might have survived such blatant negligence, but alas they didn't. This year (2020) it is different. It is autumn and I am standing in a maple forest on the edge of the *Réserve Faunique Papineau Labelle*, seeds of the endangered American Ginseng (*Panax quinquefolius)* in hand. I imagine that once this region must have been filled with this rare understory plant which takes many years to reach maturity and reproduce. Its highly valued medicine has for centuries now been a hot commodity, a panacea.

Despite the fact that I have lived in, and wandered around ginseng country for more than a decade, I have seen the plants in the wild only once, in a protected eastern hardwood old growth forest. Indeed the richter's seed catalogue tersely explains: " [n]ative of cool hardwood forests throughout eastern and central North America. Extinct in Many areas, it is now cultivated to a large extent. Seeds are planted in hardwood forests or under shade in the fall. The seedlings

appear in spring, and in 3-6 years they mature." (Richters 2021: 31). This it seems is a classic formula for extinction or being endangered: an understory plant, exposed to significant sunlight for only a short period every year, take years to photosynthesize enough energy in order to reproduce. But in such slow going grace, there is something powerful. All the Cohoshes, Aralias, Golden seal, and Trilliums are slow growing understory plants that contain potent, and thus much sought after medicine. While some of these plants might be found in abundance in the right forest, Ginseng has been amoung the most highly prized and hunted plants. But here a packet of seeds has found a way into my pocket.

Perhaps as humans meddle in the undoing of things, we might learn also to meddle otherwise, curating "the mutable and mutually implicated potencies of human and nonhuman beings" in a kind of pharmacopoiesis (Chudakova 2017: 342). If the experiments with the wild leeks have shown me anything it id that meddling can do more then cause harm, offering sometimes an act of needed intervention. This comes however in a long tradition of mimesis, of learning to restore and replicate that which is lost, form being lost (Pollan 2007: 197). As Robin wall kimmerer has said of the renewal effort of tall-grass prairies, we must "reclaim the lost members of the family of life", much like those killed, often women, those "bad death ghosts" who testify "to the trauma of matricide" (Kimmerer 2018; Tsing *et. al*. 2017: 7; Taussig 2020: 110). And so I set out looking for maples and moist sandy soil. When I encounter a sufficiently be-mapeled patch, I stick my fingers into the loam looking for just the right consistency of both moisture and grit. One by one the large hexagonal seeds make their way into the soil, they will pass the winter here, and in spring -maybe, just maybe- they will sprout as the leeks too rise from the soil. In this apotropaic way, ginseng might find a protected home here once more. In the meantime however, there is plague to ward off.



Tribute to Missing and Murdered Indigenous Women, Winter 2021

Chapter 6: Warding off the Plague

“ ond þu weg brade *wyrta modor* *eastan opne* *innan mihtigu* *ofer ðy cræte curran* *ofer ðy cwene reodan* *ofer ðy bryde bryodedon* *ofer ðy fearras fnardon* *eallum þu þon wiðstode* *7 wiðstunedest* *swa ðu wið stonde* *attre and onflyge* *7 þæ laðan* *ðe geond lond fereð”*	“And you waybread plant mother eastward open within mighty over you chariots creaked over you queens rode over you brides trampled over you oxen snorted This all you then withstood and dashed apart as you withstand poison and infection and that evil that fares through the land”

~from the Anglo Saxon Nine herbs charm of the *Lacnunga (Pettit 2001 in Wyrtig)*

I am sitting across the table from Patrick as we eat breakfast. We are now several months into a global pandemic and have largely adjusted to the new normal of semi-imposed domesticity. He is my partner, quarantine companion, and it so happens a musician. “What kind of line does a sound make?” I ask. “A wave” he says and looks up at me a bit blankly. Of course, how could I forget... “oh yeah” I say. I have started reading Tim Ingold’s *The life of lines* (2015) and I have been wondering, is sound a blob or a line? “I was thinking about it,” I say, “I realize that were I to draw sound moving through space, I might imagine several lines, or I guess waves, radiating outward from a central core...”. “Yes” he says, “it would also be three dimensional” he adds. Oh yes of course! “hmm that makes sense, a bit like a cell or a solar system but more effervescent…”. We return to breakfast, the line and blob now intermingling with the wave.

I had a small thrill later in reading Penelope Gouk's work when she notes that "the vibrative nature of matter… vibrates "every way in orbem from and towards the centre, in lines radiating from the same"'(2017, 5). Still, this conversation above highlights for me not only my own personal tendency toward the visual rather than the sonorous, but one that also mirrors a more dominant social inclination. Marco Motta equates the visual with notions of representation, with rigid dichotomies of self composed of interior and exterior (2013: 158). The conversation above then edged me closer to what Motta describes as *l'écoute*- to the resonances which are so often overlooked (2013: 158). This was a fragment of my attempt to be open and reckon with the notion of vibration, which is, after all, the constant state of all matter in the universe. I have slowly realized that this has been essential in making sense of vitality- a force which for Deleuze is a grand rhythm, a coalescing of sensations (here equated with vibrations) into resonance (Deleuze in Laplante in press, 40). This work then knots together (Ingold 2015) the various vibrations as they have emerged in, and resonate through, not only my dealings with *Plantago Major* amid this strange new world of the Covid-19 pandemic, but also in my own practices of movement and dance.

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The first time I was tested for Covid-19 in June 2020, my seasonal allergies were peculiarly worse than in previous years. For several months already I had grappled with the new strange awareness particular to my lungs and throat which seemed to come with a newly endowed sense of Covid-19 hyper vigilance. Indeed at the beginning of the pandemic everything seemed novel. While there was a certain relief in the sudden halt to the everyday grind, there was also great uncertainty. Should I, for instance, let my outdoor cats continue to go outside and interact with neighbours? Should I touch dogs I meet when I am out for a walk, or leave my dog

off leash to potentially be touched by strangers? Might they end up like that tiger in a New York zoo, or the dog in Hong Kong who both tested positive for the virus? Could they pass it on to us and those with whom we come into contact? Amid these multi-species registers, these"cloud of [viral] particles, uncertain ontologies, multiplying narratives and apocalyptic dreams", where exactly were we to draw the limits of safety (Lowe 2010: 625)?

By June I had more or less negotiated my way forward, and was accustomed to living this strange new normal. While I had by this time wondered many times if my slightly sore throat might prove deadly for someone, potentially passing from me to my partner, and thus to his coworkers, this catastrophizing never came to fruition. Then in June I spoke with one of my fellow apprentices in Abrah's program. She indicated that she had a presumed case of Covid-19 given that she had all the symptoms, though she had never tested positive. For several weeks preceding her more severe onset of symptoms (fever and shortness of breath) she had suffered from itchy eyes and presumed it to be allergies. When I disclosed my mysteriously worse than normal seasonal allergies, she encouraged me to be tested, and so I went.

The lineup began outside the brewer park arena, a central hockey rink. Slinking around the arranged metal fencing, we shuffled forward from circle to circle, carefully dispersed at 6 foot intervals. A young man in front of me, possibly with his mother, felt too unwell to stand. She waited in line while he sat some distance away on a curb, his head in his hands. A gown and face-shield clad staff-person came to check the line and ask if anyone was too ill to wait. She spoke with the young man and he was soon whisked away inside. I was suddenly very grateful for my homemade mask, not yet a requirement. It struck me then, perhaps somewhat belatedly, that this might possibly be one of the least virus-free areas in the city. After a half hour of shuffling slowly forward, I made it to the doors of the arena where I was handed a new procedural

mask and some hand sanitizer. Finally inside, I begin to follow the line into the arena; behind the boards once occupied by hockey parents we now populate this solemn dirge of masked, and soon-to-be test subjects. On the "ice" healthcare workers decked out in flowing blue gowns see to the forward motion of this well-oiled machine. Still, many chat casually, or leave for their breaks, living life in as normal a fashion as possible. I realize suddenly that I have not shared the same space with so many people in some time. Slowly I advance. I am now in the snaking chain of people who have made it into the arena, the eye of the storm. I try to read my book, but the atmosphere is cloying. Banners for the home team line the walls, but sport has now turned to a carefully regimented delivery of care.

I make it to a chair and divulge my name and healthcare number to a gown, mask and cap enveloped person. From here I am ushered into another waiting area, where I am instructed to sit only in the chairs facing me. Called up again, I turn my chair as instructed to indicate its contamination. Now they ask about my symptoms, and hand me a piece of paper. I wait again sitting once more. This time I am summoned to a curtained cubicle, asked to remove my mask, and the swab finally makes contact with the stinging depths of my sinuses. I am handed more paper and sent scurrying out the door to isolate in my home.

It was similar on the following occasion in September, although now the opening of schools and the regular screening of parents had resulted in a surplus of parents with children. As such the line-up, now covered by large tent, was quite substantially longer. A clinical director emerged onto the scene of this macabre circus of tired parents and crying children in an attempt to persuade people to leave if testing was not essential. Some withstand the pressures while others peel away from the spiralling inward motion of this agonizingly slow dirge. A stressed man in front of me speaks anxiously to a confidant on his cell phone while unpredictably pacing be-

tween two of the demarcated circles, the molasses like progression evidently uncomfortable for him too. I hang back, listening now as a mother sings to distract her child from the tedious shuffle. In three hours my passage through the potentially fetid air of this carefully titrated spiral too shall pass. Relieved, my feet will hurry away onto the bare ground and open air outside.

***

When I received feedback on my research proposal from Abrah, she alerted me to the fact that Plantain is particularly responsive to vibration, adding that it is understood as snake medicine. Snakes too, she noted, were sensitive to vibrations transmitted through the earth. She awakened me to the reality that this plant grows on waysides as though it were drawn to the footfalls and rumblings of those who pass. Indeed Plantain has often been associated with pathways and this I knew, but I have nonetheless had to sit for sometime with the notion that the plant is drawn to vibration.

In North America Plantain took on the name of White Man's Footsteps as it spread with colonial disturbance; similarly in the 9 herbs charm cited above, it is translated from Anglo Saxon as "Waybread"(Pettit 2001 in Wyrtig). Wolf Storl notes that Plantain favoured the compacted roadways where it found less competition, and where its seeds, sticky when wet, might be easily carried onwards (2017, 114). He further suggests that the plant proliferated in the neolithic area as cereal production increased, a time when road networks had yet to be developed: "cult roads led from the village of the living to the chambers of the grave barrows, or burial mounds where the departed ancestors lived" (Strol 2017: 116). Along these roads Plantain, or waybread, withstood the passing cartloads of the dead, and hooves of cattle and ox. It led, in a literal sense, to the subterranean realm of the dead, and was said "to avert the transition to the other world" (Strol 2017: 117). Indeed its astringency is still used for wounds, to staunch blood, to pull tissues to-



Fibonacci spirals in Plantain flower and basal leaf structure, Spring 2020

gether or to help expel and pull out infection or venom. Now as intestinal disorders plague the industrialized amoung us, as human intestines find themselves ravaged by round-up ready cereals and hither too unseen environmental contaminants, plantain is used commonly to calm and soothe the intestine, to both dry and moisten irritated and inflamed tissues. People have been us-

ing it similarly now in treatments for Covid-19, finding it offers relief to lungs ravaged by the virus.

Abrah once said, as a group of us gathered around the plantain in her lawn that, "Plantain clings to the earth". In the bits of Traditional Chinese Medicine (TCM) I have picked up in my short herbalist education, the earth element rules digestion and assimilation. It is associated with the spleen and said to manifest often in care-work and the taste of sweetness. Here its affiliation with the gut makes some sense. Indeed little differentiates shit from soil- only time and microbes. So, just as feet trudge onward and carts roll the dead to burial, so too does shit decompose. All the while Plantain makes seeds that get sticky when wet: here rhythmic cycles begin to emerge with earth as intermediary. Like Ingold's cling-y, whorling knots there is a cyclical nature to the coalescing and dispersal of rhythm- indeed nothing clings and whirls forever (2015, 3 & 7). Vibrations that coalesce into rhythm also dissipate. Sometimes though we can adjust, correspond, attune.

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I found myself repeatedly confronted with the notion of vibration where it concerns the taking and preparation of flower essences, sometimes called vibrational essences. The near homeopathic dilutions have been more difficult for me wrap my head around. If herbal medicine inhabits a spectrum that stretches from the scientific to new age woo, flower essences are deep in the woo. Indeed despite long medical traditions of understanding health in relation to sonority and vibration (Gouk 2017, 5), this is a place I have had to reach in and work through some skepticism and confusion. In both 2018 and 2019 I attended the Heartwood gathering, a herbalist conference near Port Hope Ontario. Both times I attended sessions about flower essences.

At the first workshop we were asked to drink a blended mix of fresh green plants, lemon and honey in order to raise our vibration. It was explained to us that the earth's vibration was rising, and that ours must too. It seemed almost that this was collectively accepted, though this did not feel intuitively evident for me. We then meditated for a time with a blindly selected card affiliated with one of Edward Bach's 38 Flower essences. We did so without looking at the card while the workshop facilitator prepared our bottles of essence. We eventually looked at our cards and discussed our experiences in groups. We then meditated again, now with the essence itself - either used externally or internally. We shared our experiences again in the same group.

I spoke with the facilitator afterward. I had enjoyed the workshop and was curious about the information she had shared about Edward Bach and his own impetus to leave the laboratory behind and offer living holistic medicine (Penselin 2017, 4). She had indicated that Bach's assertion that dew drops held the same vibration as the plants served as the basis for his essences which differed from homeopathy in offering light rather than more darkness into the healing process. I asked her about making flower essence, or using plants other than the 38 proposed by Bach and commercially available. Her stance was clear: it was not necessary to make them as they needed to be processed with the right intention, and all that was needed could be contained with his original 38 commercially produced essences. She counselled against the DIY approach.

The workshop I attended in 2019 was however totally different and was structured more as a ritual. We were outside in a circle. The facilitator had a crystal bowl in the centre full of spring water. She had us pray to the sun and the ground, to form a triangle around our third eye and touch it to the ground. Eventually we were ushered out of the circle to find a plant, to sit with it, to bring a piece of it back, or simply to breathe in its vibration. We returned to the circle and one by one added the plant or breath-vibration into the bowl. With each addition the bowl was

tapped so that it rang, resonating outward. We each uttered one word to it. We stayed with the essence until released. Later we were each offered small bottles of the essence we had made. I spoke with this facilitator as well about making essences and the commercially produced Bach flowers. She too was clear: the commercial Bach flowers were now manufactured by Pepsi, absolutely we should make our own. This knowledge, she insisted, is older than Bach.

This summer, leaning into my own hesitancy, I made my own essences, including one of Plantain. My mother had given me small multicoloured crystal shot-glasses some time ago, no doubt for their aesthetic appeal more than their envisioned contents, but they were perfect for making small quantities of essence. I filled one with spring water from the Wakefield spring, and after sitting with the plant for a time I carefully -so as not to touch the Plantain flowers and disrupt their vibrations with my own[2]- snipped them with sheers into the little glass. Some have said that Plantain's subtle flower resembles a snake's head -a signature indicating its use. The flowers were tender, comprising pale green stalks dotted with small buds -soon to emerge with petals- all neatly stacked and spiralling upward like miniature honeycomb to a slender rounded tip; sturdy, but delicate. I placed the shot-glass with its precious contents in the centre of the plant so that they might vibe together, this is what books had suggested after-all. I then continued about my garden duties, drawn into other rhythms and frequencies. I returned later to see the shot glass spilled, though not entirely. At this I chuckled, it was a dry hot summer and of course the moisture loving Plantain would be thirsty. Given its tendency to be in the way, odds were good for some spillage. Dirt had got in too, again this seemed appropriate. I returned the flower stalks to the plant and mixed the infusion with brandy to preserve it. Even the brandy I somehow managed to spill and accidentally add in excess.

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[2] This is the commonly prescribed method, though there is debate about this.



Making Comfrey flower essence, Summer 2020

I have now taken the essence several times, finding it to be amoung the more potent and immediately effective of the many that I have made. Despite some of my skepticism, it seems to create a sense of internal space around the intestines and lungs, I feel myself pull backward, my neck relaxed, as if my body were opened and more firmly on the ground. This differs for instance from the Tobacco flower essence which sends chills up my arms and neck, or Belladonna which

seems without fail to pull my head up toward the sun. With Plantain's essence something in me shifts and makes space. In these encounters I am altered in a manner altogether familiar and recognizable. The vibrational essences seem to bring internal movement akin to that which might potentially be evoked by dance, and my own intentional physical movements entailing breath, stretch, force, balance and release.

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And so we have arrived at the dance. Why dance? Never in my research proposal did I discuss dance, a fact I might now see as a kind of oversight. I had suggested instead that I might draw plants, though I have not really been calm, collected and composed enough through the tumult of this pandemic to feel much like drawing. In practice it too closely resembles writing and reading. It demands concentration, stillness as well as containment, and in truth I need to move. Sometimes, the feeling overwhelms me and sends me running out the door into the experimental farm. My dog, Ursa, is slow and so I loop around her, stretching my arms up and outward when I need to. Often my arms have been too poised, too still and ready to appease the operational requirements of my computer's screen. Dodging tree roots, I quicken my pace with Ursa's own occasional excitement, and pause with her need to sniff, to slow down in the fullness of the summer heat, and sometimes for the sake of her occasionally achy front elbow, my run sometimes is little more than a walk weaving, perhaps hoping side to side. I greet the white pines as we pass, touching their bark, noticing the squirrels, the plants, the mushrooms as they shift with the seasons. It is this kind of dance that is needed in these moments.

More than rote daily exercise, my daily run-walk-dance feels continuous in many ways with my weekly contemporary dance classes, which I have faithfully stuck with now through these many months of the pandemic. We gather on zoom, so that now my instructor Natasha is

teleported onto my screen. I follow her queues as I have for most Tuesday nights these last few years. She sits atop my barbecue in the back yard while I dance on the weedy withered lawn, the dry dwindling grass beneath my feet, the cottonwood rustling above. I reach right toward the belladonna, oat and plantain, and the left toward the apple and raspberry. It was Natasha who suggested I do a movement prayer, a filmed weekly performance or offering of simple movements- no more than 4 minutes- that she has been faithfully offering up on her own since quarantine began.

It was serendipity calling I realized; a good opportunity to think with plantain. But more than this, we were not the first ones to attempt dancing ourselves out of a pandemic. Indeed many Indigenous women in North America were "posting videos of themselves doing jingle dress dancing" as the Covid-19 pandemic took off, harkening back to the this healing dance form's origin in the 1919 Spanish flu pandemic (CBC News 2020). While jingles themselves were a popular adornment in the Great Lakes region prior to the creation of the dance, it was not until the dance emerged in vision, or dream, that it was given new life through integration into a healing dance (Browner 2002: 54). The story goes, that in Whitefish Bay, Southwestern Ontario,

> A young girl was sick and gave no signs of recovering, so her father sought a vision. In that vision he was shown how to make a dress and perform a dance. He set about making the dress and then put it on his daughter and instructed her in the dance. In spite of her illness, she somehow was able to dance, and when she did she was miraculously cured (Browner 2002: 54).

This young girl is reputed to be Maggie White, an Ojibway women who popularized the jingle dress dance, despite state repression forbidding "religious dancing", and leading to its eventual popularity in powwow circuits across North America (ICT 2018). For the Ojibway, "spiritual power [is understood] as being passed through the air, and so sound is very important", but further, the jingles on the dress are known for "sounding like "our sister the tree"", and for their

calming influence (CBC News 202; Browner 2002: 55). Ultimately then, Tara Browner indicates that "[t]he very act of dancing in this dress constitutes a prayer for healing" (Browner 2002: 53).

While I had no aspirations of something so grand as the jingle dress dance, I recalled nonetheless the 9 herbs charm and its rhythmic repetitions. I envisioned not so much a prayer, appealing upward to a supposed deity, but the repetitive recitation of a charm seeming to evoke lateral movement; to compel a reminder of the strength that already is, and to create presence through re-iterative incantation. Indeed it states:

> **Sing that charm on each of the herbs**
> **thrice before he prepares them and on the apple also .**
> **and sing into the**
> **mouth and into both ears and on the wound**
> **that same charm before he puts the salve on that.**
> **(Pettit 2001).**

The movements selected were then repetitive and in some senses banal. Reminiscent of many of the habitual movements I revisit on Tuesday nights, and throughout the week here and there when I feel the need. While potentially mundane, the movements evoke and manifest strength, and so I used them in service of the plantain, a plant that while mighty, is also commonplace in its abundance. Here there is some of Gregory Bateson's sense of habitual redundancy. This he describes as a common trait of communication generally, but one which in Balinese art and society gestures through the paradoxical mutual dependency even of supposed polar opposites (Bateson 1972: 147). This is reflected too in Julie Laplant's description of *rasa* in the making of medicinal Javanese *jamu*, a "[m]oving harmoniously in- between people and things, conjoining the inward and outward (2016: 25). Pulling breath inward, pulling upward, drawing down, reaching laterally, whirling too…all might have seemingly crescendoed and diminished as might a life - vegetal or otherwise. This however paradoxically evokes constance in its cyclicality too. Here

then is a salve for troubled times, a kind of attunement that might evoke the harmony and balance of music "perceived as pleasurable to the soul" (Gouk 2017: 9 & 5).

In terms of location I had more distant spots in mind. I visited them, but sometimes there was no Plantain, it being a hot and dry year in some ways unfavourable to the plant. Other spots were so much in the way that they were not conducive to a filmed performance, outdoor space now being at a premium as indoor spaces have suddenly become dangerous. I tried setting up the camera in one spot near to a small patch of the plant, but the light and angle simply didn't work. I realized that the best spot is the driveway of my parent's home in Quebec, not the deeper woods nor the now busier than ever paths of Ottawa's experimental farm. As I wove the half-choreographed sequences around the driveway, camera propped up against my car, I became aware of how the sounds of domesticity coloured the soundscape of the dance- of Plantain's habitat. Voices from the kitchen, a motor… soundscape serves as soundtrack. Visually too, there is no hiding the compost bin; I am in the way, literally in the driveway. Here amidst the most compacted of soils the plantain grows, alongside some others. Here in whorls of new growth and possibility, winding and unwinding as they might through soil and air (Ingold 2015: 57).

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In the end, I cannot straightforwardly follow the Plantain, not really. Just as rigid notions of exterior and interior representation must give way to the subtler rhythms of interplay between performer and shifting communal demands in Motta's conceptualization of theatre, so too will strict dichotomizations of who is following who in this dance simply fall through (2013: 141). The truth is that I summon this plant with my own footsteps, I invoke it, charmed as it is by the rhythmic strike of my walk, the rumblings of my tires. It digs in, undoing my compaction only to have me follow again. It was Julie who said as much to me, her voice raised as the river thun-

dered onto the rocks around us “it is trying to follow you, but you are following it”. I have yet to be dashed apart, as waybread is suggested to do in the Anglo-Saxon 9 herbs charm, but the potential conundrum remains. Nevertheless, in following plantain I summon it and further recreate its seemingly preferred state of being. Here there is perhaps not so much a conundrum as a potential plateau - a possibility for stability, something akin to the non-schismogenic art forms described by Gregory Bateson (1972: 120 & 124). So too does the dance then evoke the *entredeux* of Plantain and me as walker and breather. So while I breathe, walk, and whorl outward as does the plantain, this moving medium is first and foremost a communion with the air, the plantain stretches down into the soil, sitting between earth and air. Without roots I cannot undo compaction as it does, but instead I offer my heartbeat that our vibrations might be entrained to one another (Motta 2013: 157), that in this sense I might take in something of the earthy soil, just as the plantain’s new life force might be carried along on my feet and through my gut. In this sense we orbit one another forming a knot (Ingold 2015), conspiring (Myers 2017: 3) in a resonance that echoes and reverberates into the ether of a musical cosmos (Laplante in press; Gouk 2017: 68). In this enchanted take on movement there might also be a kind of charm, a warding off of the “evil that fares through the land” (Petit 2001). Still though, as we move into this next section on making medicine, the horrors of the anthropocene are far from undone



Waybread's Charm Movement Prayer, Summer 2020

Part III - Making Medicine



Harvesting Plantain seeds, Fall 2020

Chapter 7: Mushroom Messiah

It is mid-December 2019 and I am sitting in Abrah's living room along with several other apprentices, all of whom happen to be women. This session is part of a longer apprenticeship in traditional western herbalism, and as the afternoon stretches on, we discuss bitter and carminative herbs for digestion. On the screen we all tentatively watch as Abrah pulls up an image of Sweet flag with its long conical flower. "Men love this plant" she says, gesturing to its phallic shape. We laugh, one woman in her fifties seems confused and asks for clarification. We all look at her. I can't help myself; " It's shaped like a penis" I say. The woman next to me chuckles. Abrah continues "its true, men love things shaped like penis'. If this were a course on medicinal mushrooms, this room would be at least half men".

Indeed, having attended a medicinal mushroom seminar and mushroom walk weekend with herbalist and medicinal mycologist Robert Rogers in October 2019, I can attest that in this instance, at least half of the participants had been men. Amoung them was my own partner, who, while not exactly disinterested in medicinal plants, has over the last few years become passionate about mushroom hunting; intrigued by the mysteriousness, and meatiness of fungi amidst a culture that is more generally mycophobic. Such experiences led me to take pause; what is this masculine pull of the mushroom? The discussion that follows gestures to the darker side of medicine, and to some of the problems that emerge with masculine mushroom messiahs, all the while centring one medicinal mushroom species in particular, the Agarikon, or *Laricifomes officinales* (formerly *Fomitopsis officinales*).

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The aforementioned medicinal mushroom weekend event had ebbed away from my consciousness by early November 2019 when I found a packet of Agarikon mushroom powder in the discounted herbal supplement bin at my local organic food store. I did a double take, remembering snippets of Robert Roger's early Saturday morning talk at least six weeks prior, and the half grasped tidbits about this mushroom: "wasn't this mushroom extinct or something?" I couldn't quite recall. I was both disturbed and curious, but quickly forgot about the Agarikon until the next week, when my rituals of frugality brought me back to the discount bin. Over the ensuring weeks, my curiosity eventually won out. Twenty-four dollars for a packet of possibly extinct mushroom maybe wasn't the worst deal after-all. It would be an experience, the world is burning anyways; why pass up such an opportunity? More than this even, the Agarikon had captured my curiosity, and as Robert Rogers indicates, "[m]ushrooms represent the underbelly or underworld energy of the planet" indeed "fungi are lunar, dark, and mysterious" (2016: xvii)

Such are the somewhat bleak ruminations that inform banal health food store purchases in the anthropocene. As ecological destruction looms large, ethical dilemmas of this sort seem to permeate everything. Michael Taussig has indicated that this epoch carries "*a new quality of connectedness"* forged in both in the malice of cosmic forces we currently face, and because "death highlights things not previously perceived" (2020: 56). In his work "Anthropology of Ontologies", Eduardo Kohn elucidates the nature of anthropology's ontological turn, defined by him as "the study of "reality"", as symptomatic, or perhaps even diagnostic of a broader turn toward "the spectre of a global ecological crisis" (2015: 312). As such, the ontological turn seeks to address this by to placing the human in a specific context; namely within a web of social relationships that extend beyond the human, and that "help us create the conceptual resources we will need as we learn to "ecologize"" (Kohn 2015, 315).

Luckily then, Agarikon is not extinct, though it is frequently misrepresented as such, and stands in Europe are considered endangered (Weier 2009: Wojewoda 2010). Although a circumpolar bracket fungus, Agarikon is particular to specific coniferous species, most frequently choosing to parasitize[3] hosts from within the *Larix sp.,* or Larch family (Piętka & Szczepkowski 2004: 34). The perennial nature of the Agarikon sets it apart from various other polypores, or bracket fungus, species. Some claim that the fruiting bodies of the mushroom can live for as long as 75 years, gaining in height and concentric layers over time (Piętka & Szczepkowski 2004, 34). While undoubtedly general habitat destruction of European larch forests has played a role in the species decline in Europe, it is noteworthy that some mycologists indicate "[t]he medicinal properties of *F. officinalis* for which the fungus was sought have led to its disappearance" (Piętka & Szczepkowski 2004, 34). Indeed in 1879, eight thousand kilos of the dried mushroom was exported around the world from Russian forests (Piętka & Szczepkowski 2004, 35). Dubbed originally by Dioscorides as "the Agarikon" and a healing panacea, the mushroom has suffered from longstanding medicinal use for a multitude of conditions ranging from cancer, to hysteria, to tuberculosis to wound care (Piętka & Szczepkowski 2004: 34 & 35). Studies have suggested that overall, the "very small number of localities in the Urals and adjacent areas indicate a global decreasing trend of *F. officinalis*" (Chlebicki 2003, 118). Such trends in overuse and habitat destruction indeed suggest a need to "learn to "ecologize"" (Kohn 2015: 315).

While some sources indicate that the Agarikon has been found as far east as Ontario and Michigan, the Douglas fir old growth forests of the Pacific northwest are generally considered the heartland of the Agarikon. My fraught powdered polypore purchase was assured to be of this-

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[3] Paul Stamets has suggested that Agarikon, long considered parasitic, "actually protects trees from parasitic fungi"; engaging instead in a symbiotic relationship sharing nutrients and offering strengthened immunity in exchange (Issacson 2009).

less endangered- ilk, and most likely consisted of laboratory raised mycelial growth rather than an actual, wild fruiting body. Indeed, despite this mushroom product's attribution to Harmonic Arts, a Vancouver Island based bulk herb vendor, the powder is marked as a product of U.S.A. origins. Rather than indicating it is wildcrafted, the package states instead that it is "Organic" and appears to be USDA certified. Such indications lead me to suspect that the origins of this mushroom powder might actually be obtained and repackaged from the Olympia Washington based company, Fungi Perfecti, created by medicinal mushroom guru, Paul Stamets.



Old Growth Douglas Fir, Avatar Grove, Vancouver Island, Winter 2019

The Agarikon has served as Stamets' "Holy Grail in his crusade to prove" the medicinal value of fungi for a variety of conditions, he being its main publicist of our times (Weier 2009). Mother Jones and conservation magazine have published accounts of his quest for and relationship with this specific mushroom, and frequently it seems his public talks include it. While he draws praise from some unusual quarters, I have also witnessed Paul's claims draw the ire of skeptics with-in mycology

circles. Paul's persona looms large in the mushroom world. In many ways, he encapsulates what could be seen, as in the case of Abrah's commentary, as a kind of totemic masculine obsession with the mushroom (Descola 2013, 144). While nonetheless receiving encouraging scientific backing for his work, his enthusiastic claims seem, over-inflated and, at best, naively boyish in their zeal.

Conservation magazine describes Stamets as "bearded and burly" in his "quest" for mushrooms; further, his particular fervour for the Agarikon has led him toward the general promotion and preservation of old-growth forests (Weier 2009). Out of some twenty trips into the forest of the Pacific North-West, he and his research team found only one (Weier 2009); but amid these noble aims are, for me, some darker elements at play as well. Stamets has collaborated with United States Department of Defence project BioShield "to investigate whether fungi can counteract biological weapons" (Weier 2009). No doubt this alliance has garnered Stamets' work more validity and scientific credibility, with Agarikon clearing various strenuous tests demonstrating effective use for cowpox, vaccinia viruses (closely related to smallpox), as well as tuberculosis (Weier 2009). Since the onset of the Covid-19 pandemic, Stamets has also been working "to establish clinical studies using the fungus to treat Covid-19 patients in the United States " (Baker 2020). Such encouragement has Stamets dreaming big: he is convinced "that mushrooms can cure everything from avian flu to cancer" (Weier 2009). As such, for Stamets, "we can make the argument that we should save the old-growth forests as a matter of national defence" (Weier 2009). Coming full circle then, through Stamets, we see a totemic fungalized masculinity colluding with one of the most phallocentric institutions of all; worshippers of missiles and warheads and an undeniably imperial and settler colonial force, the United States military.

His influence extends beyond the world of the medicinal mushroom with projects ranging from the propagation of urban forests, to fungus based bio-diesel, to mycoremediation of contaminated lands (Weier 2009). Indeed his work on mycelium, and his theorizing that they are akin to the larger structure of the universe was picked up and integrated into the plot-lines of StarTrek Discovery, no doubt capturing the wonder and fascination of a broad audience (Weier 2009). Such notions find some kinship perhaps to Lévi -Strauss' notions of anthropological endeavours to grasp at, and reveal the ontological properties of the universe (in Kohn 2017, 316-317). These grand postulations of Stamets have drawn attention from Leonardo DiCaprio and Al Gore amoung others, highlighting his influence. However, within this are gestures toward something that verges on a messiah complex. "What we're doing here could save millions of lives…. It's fun, it's bizarre, and very much borders on something spiritual" (Isaacson 2009). Indeed Stamets' is a classic brand of animism, saluting fungi as human ancestors, and while we began separate evolutionary paths some 650 million years ago, we are both susceptible to many of the same infections (Issacson 2009). While Stamets' might insist he is merely a "voice for the mycellium" a narrative of something more is often made of him (Issacson 2009). Indeed his christian mother is reported to believe that he is chosen, and Stamets himself has described hallucinogenic induced episodes in which he had visions of himself "as a mycologcial warrior in defence of the planet" (Issacson 2009).

A 2009 *Mother Jones* article chronicles Stamets' sailing expedition up the West coast to Haida Gwaii, the homeland of the Haida and the Fungus Man legend. While I delve into this particular saga further along, I would like to situate it first within some ethnomycological context. To the Haida, Agarikon, otherwise known as *Gyaalga Naan-Gha*, or "sea biscuit's grandmother", are recognized as holding supernatural powers (Rogers 2013, 30; Blanchette *et. al*. 1992, 119).

Indeed northwest coast Indigenous groups had independent medicinal uses for the polypores, and were purportedly prepared as a tea by the Haida for the lungs (Blanchette *et. al*. 1992, 119; Issacson 2009). Of ritual significance, figurines were carved of the Agarikon and that eventually served as effigies and grave markers for shamans (Rogers 2013, 30; Blanchette *et. al*. 1992, 120). Whether used as figurines, displayed in the ceiling timbers of special dance houses for protective purposes, or rendered into masks, the fungi was valued for its capacity to "redirect evil or malicious thoughts directed their way, back to the person who sent them" (Blanchette 2017; Blanchette *et. al*. 1992; Rogers 2013, 30).

Of particular salience within all this is the Haida creation legend featuring Fungus Man, believed by various scholars to have been an Agarikon (Blanchette *et. al*. 1992, 123). Specifically, Fungus man makes his grand appearance as Raven seeks a way to help his newly discovered human creature reproduce. Herbalist and medicinal mycologist Robert Rogers provides a summary, along with his own interpretive twist:

> "The Haida personified the bracket fungi as Fungus Man, and due to his strength was used by Raven (Yaahl) to steer his canoe. According to legend, they went to find female genitalia associate with the origin of women and, or course, the female archetype. It is considered a protector of women's sexuality" (Rogers 2013, 30).

While other cosmic beings were first recruited for the task by Raven, none of them had the force of Fungus Man (Rogers 2013, 31). This legend is most extensively depicted by Haida carver Charles Edenshaw through his argillite and silver carvings of the 1890s, who appears to have himself seen deep significance in the cultural phenomena of Fungus Man.

Living through the transition from 1867-1920 in Haida Gwaii, Edenshaw witnessed various significant shifts in the life-ways of his people (Hoover 2017). Struck by two devastating episodes of small pox, the residents of Haida Gwaii saw a crushing blow to their population

(Hart 2014). Survivors, were relocated to the community of Skidagate and Masset; here Haida people, who spoke many differing dialects, suddenly had the added burden of having to sort out common speech between them on a daily basis, and without the guidance and assistance of many elders holding key cultural knowledge who had not survived the outbreaks (Hart 2014). Indeed, throughout Edenshaw's life he bore witness not only to smallpox, but to the potlatch bans and the



FIG. 7. Drawing of an argillite plate, carved by Charles Edenshaw in approx. 1890, depicting the Haida myth of the origin of women. Fungus Man is paddling the canoe with Raven in the bow in search of female genitalia. Of all creatures that Raven placed in the stern of the canoe only Fungus Man had the supernatural powers to breach the spiritual barriers that protected the area where women's genital parts were located. Diameter = 35 cm. Redrawn from a photograph, courtesy of the Field Museum of Natural History, Chicago.

(Blanchette et. al. 1992, 122)

residential school era: undoubtedly the cultural loses were huge (Hart 2014; Hoover 2017). Nevertheless, his traditional carving served as a medium through-which he could transmit the legends of his people, Fungus Man privileged amoung them (Hoover 2017). Beyond this, he demonstrated a possibility to survive through these shifting contexts on the skills on his traditional Haida trade, passing this down the generations as much as the mythologies he depicted (Hart 2014). However, Edenshaw's focus on Fungus Man is curious, particularly given his, at the time novel sale of the platters to outsiders as internal cultural demand for items diminished alongside the Haida population and ability to practice the potlatch (Hoover 2017). What is assumed is "Edenshaw's apparent desire to preserve tangible evidence of the richness of Haida mythology, which was being lost by the encroachment of colonial belief systems" (Hoover 2017). Indeed while some have historically denigrated the work of Edenshaw as "inauthentic "tourist art"", more recent attempts have pulled toward a view of Fungus Man platters as "modernist hybrid work" that reflects Haida realities of the time (Hoover 2017).

Today the Haida, though culturally resilient and teaching children the language in Haida Gwaii schools, has fewer than 20 fluent language speakers left (CBC 2017). The successive waves of illness and Canadian policies of colonial intervention have not been without devestating consequence. And so, into this scene sails Paul Stamets, seeking to discover and sample any living Agarikons the Islands might have to offer him; all to assist efforts in cataloguing DNA and propelling laboratory propagation of the Agarikon (Issacson 2009). Issacson (2009) in his *Mother Jones* piece on this undertaking somewhat grotesquely notes: "[t]ragically, they never discovered what Stamets in now finding: that the mycelium running through the tree bark is resistant to smallpox". He goes on to describe a meeting between Stamets and an unnamed "Haida Nation's

president". Apparently "[o]ral traditions had kept the mushroom's reputation alive, but its secrets had been forgotten". No mention is made of Edenshaw and his impressive contributions to the preservation of this knowledge.

We skip forward instead to a paired encounter with pictographs and old Agarikon conchs. The article sets the scene: "[t]he paintings come into view - crude red shapes on a granite face… suddenly from behind binoculars, a researcher yells, "There's one!""(Issacson 2009). Stamets is ecstatic ""Oh my it's *huge!"* Stamets cries. "It's like the Moby Dick of agarikon… the biggest one I've seen in my life! How cosmic, right where the pictographs are!" (Issacson 2009). Speculating the fungal mass to be 70-100 years old, Stamets rides to shore in an inflatable boat.

> The fungus is two feet long and resembles a bloated, mutant caterpillar, tubular and segmented. It is growing around a stubby branch poking out from the tree. Stamets believes that it probably fell from higher up, accidentally landed on the branch, and then calcified the wood to provide itself with a sturdy perch—an unusual occurrence he's never seen before (Issacson 2009).

Lo and behold, a research underling simultaneously discovers a Fungus Man pictograph. "No way, no way!" Stamets exclaims. "Fungus Man is *there?* Oh boy, oh boy I'm getting shivers up and down my spine now." (Issacson 2009). Discovery and messiah narratives emerge again as Stamets proclaims:

> "We may have discovered a mystery that no one ever knew—that the pictographs exist here *because* of agarikon. I feel like this is a fulfillment of a *dream*. We're so lucky. *Unbelievable*. See, this is the thing about mushrooms: It's not luck. There's something else going on here. We've been guided. But this is what *happens*. All of our big finds, we have been led." It also happens to be Stamets' 53rd birthday (Issacson 2009).

After poking at the Agarikon with a stick, Stamets concludes that the fungus shouldn't be taken. ""We should be honoured that we found it. This is now supersacred"", he declares (Isaacson 2009). Some uncharitable part of me was happy to hear Stamets reveal in a later youtube speech that genetic samples taken from this particular Agarikon yielded no growth in the laboratory.

While Stamets' flash of insight, motivating a refrain from poking sticks into possibly sacred mushrooms, indicates some hopeful signs of self awareness, the *Mother Jones* piece nonetheless comes to its bizarre and grandiose conclusion:

> Back on deck, Stamets looks across the open water. "How is history going to remember you?" he wonders. "How is Fleming remembered? How are people who have saved millions of lives remembered? I want to die with a smile on my face." He then strips off his clothes and dives into Desolation Sound. (Issacson 2009).

Embodying a fungalized modern day Columbus; we see a confluence of settler masculinity, venture capital, and hybridized messaih-esque narratives concerning environmental devastation, all come to fruition in the public image and persona of Paul Stamets. His claim is that our solutions might best come from some kind of fungalized techno-fix, all the while cloaked in a kind of decontextualized, de-politicized, tokenistic style of animism. If these are their trappings, one might reasonably ask, what precisely is new about the realities being imagined here? Indeed, the tropes espoused by/ plastered onto Stamets may well be older than the Douglas fir hosts of our Agarikons.

Indeed, where herbal medicine is concerned, Stamets' narrative reads almost as a cautionary tale of what precisely can go awry. For instance, when Bessire and Bond state that "the ontological turn reifies the wreckage of various histories as the forms of the philosophic present, insofar as it imagines colonial and ethnological legacies as the perfect village for forward-thinking philosophy", the world saving polemics and white man saviour narratives of Stamets come readily to mind (2014, 449). Indeed it would seem that within Stamets' worldview is a firmly entrenched refusal to acknowledge any sense of responsibility for colonial histories, and within all of this, to occasionally misrepresent the European Agarikon as extinct, effectively relegating it to the status of an impotent lost cause. As stated by Robin Wall Kimmerer with regard to species both extinct and under threat, "[o]ur work is not to eulogize them, but to fuel the fires of renew-

al" (2018). But while Bessire and Bond critique what they consider to be the ontological turn's "policing [of] the Great Divide between modern and nonmodern", I do see the need for drawing of some lines (2014, 449). For me the issues in this case read more clearly as the need to distinguish the general experiences of colonizer from colonized, and Indigenous from settler. Indeed Kohn's description of Latour's work in this area sees "the way in which humans—whether in the guise of capitalism, human exceptionalism, or progress—have become a force that threatens to destroy the plurality of modes of being" (Kohn 2015, 322). In this sense, the question is not so much an arbitrary one of "modern" versus "not-modern", so much as one of ancestral track records in living in right relationship. Indeed the comparison of Agarikon populations in both Europe and British Columbia might serve as a case in point, as the nature of such relationship becomes written on the land.

Returning then for a moment to the Agarikon and to Indigenous groups of the Pacific northwest, I am struck by one encounter emerging in the ethnographic literature. McIlwraith, having spent time amoung the Bella Coola in the 1920s notes that "the shaman was very secretive about some practices" (Blanchette 2017, 9). This was noted particularly through attempts to gather more information on "[t]he fungus dance", In which an Agarikon mask figured prominently (Blanchette 2017, 9). Indeed, in the face of brutal colonial pressures, it seems more than understandable that such details not be shared. Further, though it was likely unbeknownst to them, the Bella Coola were after-all interacting with a man whose ancestor's economic and extractive practices were decimating, and had decimated, Agarikon populations in their own homelands. I wonder too, might the Bella Coola have been obfuscating as a means of consciously utilizing the Agarikon's ability to "redirect evil or malicious thoughts directed their way, back to the person who sent them" (Blanchette 2017; Blanchette *et. al.* 1992; Rogers 2013, 30)?

Paul Nadasdy in his 2007 article "The gift of the animal: the ontology of hunting in human-animal sociality", discusses how Northern hunters, particularly of the Kluane First Nation in the Yukon, incur debts from their animal benefactors that must be repaid. In this context hunting is understood as a gift of the animal, and is viewed "as a long term relationship of reciprocal exchange" (Nadasdy 2007, 25). However, Kluane hunters' understanding of their relationships with the animals have been historically undercut by anthropological theory. Consequently, governments use of anthropological data has assisted in the continued delegitimization of Indigenous knowledge, and to perpetuation of state control over Indigenous peoples and lands (Nadasdy 2007, 26). Central to Nadasdy's argument here is the need to respect and recognize particular ontologies and modes of being in the face of, and as antidote to, denigration and injustice. Indeed in all of this, it is the works of Edenshaw and his Fungus Man platters, generated despite a context of intensified colonial disturbance, that seem to me a far more compelling and meaningful gesture toward a relationship of veneration with fungal beings.

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We see then how the Agarikon has swept us up in its mycelial networks, covering vast territories sweeping from the Pacific northwest, to larch forests of the Urals; from shamanic grave guarding, to United States defence forces drug testing. Returning then to the powdered mushroom, my habitual tastings have been intriguing. The mushroom is surprisingly sour, as suggested by one of its common names of Quinine conk; it is noticeably drying too, clinging to the throat. I have noticed not long after taking it that I have more solid steady energy. In moments of exhaustion it has neutralized some of my frenetic energy and loaned me some ability to focus. Nevertheless, unlike with other mushrooms or plants I know through gardening, foraging, and harvesting myself, my relationship with the Agarikon feels tenuous and distant. The smell

even is old, perhaps stale; like peanut butter or as a friend suggested, banana play-do. I at times wonder, should I really be ingesting this mushroom? Having no exposure to tuberculosis, small-pox or other horrible diseases, taking such a rare mushroom seems unnecessary given my more immediate and sustainable access to other medicinal varieties. Indeed my sense of plastic packed disconnection from this other being seems to herald a yet more profound disconnection from the sort of habitats in which the mushroom arises, namely old growth forests.

What I take away from the saga of Paul Stamets is that it seems quite essential that we stop sailing in to poke things with sticks and actually find new ways of forming relationships; and frankly the relationship I have with this powdery mushroom in a plastic package isn't really doing it for me. While tapping into what might be the mycelial realities of the universe could change us, we also have to open up enough to let it do so. The question all along was perhaps less "what" is the pull of the mushroom, but what is "to be done" with the dark intrigue of the mushroom? To this end the works mentioned above of Kohn and Nadasdy have offered some more politicized and attentive modes of attunement. Could we not learn to "ecologize", and in so doing take seriously the ontologies of Indigenous people on whose lands we live without re-sorting to collusions with militarism and narratives of discovery?

Perhaps we might return to the seemingly simple, but practically complex call of Anna Tsing to develop an "art of noticing" (2015, 17). For Tsing hiking and foraging are a central aspect to her fungal methods. Within this too is Ingold's *flâneur;* distinguished from the marcher "who, as he strides along, sees and hears nothing of what is going on," the *flâneur* "may linger for a moment to wonder, to dream, to remember and possibly to be astonished by the unexpected" (Vergunst & Ingold 2008, 15). In this space of wonder there is maybe an opening for the re-invention and reordering of relationships. Might the *flâneur* also notice the plantain growing un-



Chaga found on a dead white birch tree, Fall 2019

derfoot, and take this instead? And so, I am grateful to the play-dough-y powder of the Agarikon that has taught to me the value of medicine connected to place through right relationship. While this splendid fungus does not, at least to my knowledge, inhabit the Ottawa valley, its fate and

lore might be applied to other currently endangered fungus now popularly consumed medicinally.

I am thinking most precisely of Chaga, or *Inonotus obliquus,* found semi-frequently on yellow birches throughout circumpolar boreal and sub-boreal forests. In recent years, a sudden increase in demand for this sterile conk "has led to a feverish state of over-harvesting" that may lead to its depletion and possible demise (Rogers 2017). This has comprised a disturbing trend in which this unusually slow to reproduce mushroom "is found in nearly every health food store, raw food establishment, and new age café throughout North America" (Rogers 2017). Medicinally however, Canadian herbalist Robert Rogers is firm that

> "the idea that this medicinal herb should be used as a general daily tonic has no validity in medicine or science. Like many herbs, it should be used when required, especially for difficult to treat auto-immune and cancer conditions" (Rogers 2017).

If the story of Agarikon urges us to do anything, it is perhaps to take heed that Chaga's medicine, and slow reproducing medicinals in general, should not be used so flippantly. There is hope yet, herbalists implicated in organizations such as United Plant Savers advocate for the consideration of Chaga as an at-risk species. These mushrooms reproductive capacities however are beyond us; we cannot fully reciprocate and return the favour of Fungus man. We might still however do the next best thing in offering them the time and space needed to get the job done. The Agarikon has needed this for some time, and if such respite is granted, it might too recover. As Robin Wall Kimmerer notes of the gravely endangered tall grass prairie ecosystem, "[i]t's not enough to just remember, we have to re-member, reclaim the lost members of the family of life" (2018). Perhaps this can be done not in the modality of harvest, but in honouring these potent and slow growing fungus as they rest and recover. Indeed might this not be the kind of medicine we could all use?

Chapter 8: Terrain

Traditional western herbalism has garnered, overall, limited attention from anthropology as a discipline. An exception to this general omission would be Nina Nissen's work "Women's Bodies and Women's Lives in Western Herbal Medicine in the UK" (2013). Here Nissen articulates the ways in which practitioners of western herbal medicine assist their patients in adjusting their embodied realities through the implementation of self-care strategies which reinforce individual choice and autonomy, while simultaneously critiquing women's burden of excessive care-work (2013; 83). I take no issue with the nature of these conclusions, indeed they hold up in many ways to the nature of the herbal assessments I have witnessed. Nonetheless, such assertions seem to omit something seemingly obvious and significant if herbalism as a discipline is to be taken seriously. Beyond the importance of the practitioner and patient dynamic, a feature common to all kinds of healthcare relationships, there is a relationship with the herbs themselves. This relationship, and its ensuing embodied shifts, often occur through the concrete process of consuming and digesting plant-matter. As such, the plant not only becomes incorporated into the human body, but is used by medicine seekers and herbalists as a kind of technique in altering, or adjusting, current modes of embodiment. In this sense most people might understand that the plants express something of themselves through the reactions they illicit in the body, but perhaps more difficult to grasp is the notion that it is the herbalist who learns also to recognize certain potentials of human embodiment in the plants themselves.

As Abrah herself has articulated in her book *The Herbal Apprentice*, "the basic language of healing returns to the earth and her elements" (Arneson 2014: 9). The four elements of fire, air, water and earth then comprise the elements traditional to the Western herbal traditions,



Cranberry plants, a classically astringent remedy for urinary tract infection due to pelvic "bogginess" found in the Alfred bog, Winter 2020.

though other practices have been influential to the traditional western tradition, and offer some degree of variation on these themes; notable examples would be the inclusion of "ether" in the Ayurvedic tradition, and the inclusion of "wood" and "metal" in Traditional Chinese Medicine (Arneson 2014: 10-18). In the western tradition influenced largely from the European context, the four elements corresponded to humour theory, and specifically to the four humours of blood,

phlegm, and yellow and black bile (Arneson 2014:19). Similarly then the humours correspond to temperaments which include, the choleric, melancholic, sanguine and phlegmatic (Arneson 2014: 19).

Herbalism, as is frequently stressed by Abrah, is a process of attuning to the terrain of the body, and to seeing appropriate vegetal correspondences, and needed adjustments. It is for this reason that our first session with Abrah in September of 2019 entailed a hike through the woods surrounding her house. After a morning and partial afternoon spent in her back yard, we set out. Starting with a decent to the lake, we took pause by a sandy area. Down the way, growing near the water's edge, a patch of Gravel-root was interspersed with the occasional bit of Boneset. Horsetail too could be found, though closer in to the trees. Indeed the afternoon was hot, and so we retreated from the open expanse of the lake toward the shade of the forest's edge. Abrah makes note of the regulating effects bodies of water hold for surrounding areas comparing issues of temperature regulation to trouble with the water element in the body. We move on, climbing up slightly to pass through some spruce. I notice then broad bolete mushrooms growing in their mossy shade, and curiosity overcomes me as I stop to look. I have been searching for boletes all summer, but it has been hot and dry in the broadleaf forests I tend to frequent. They are slimy and damp, I take note of their mossy, evergreen nest, admiring their slimy caps.

There is something perhaps in starting with water, after-all "we are born of these very waters", these waters which grant "life-giving waters through different regions", and have about them a kind "primary mystery" (Abram 2010: 71, 287). So, like the slime of a bolete mushroom, the phlegm of the body, coating intestines, nasal passages, and lungs is damp and generally cool compared to the rest of the body. The trope of the phlegmatic temperament is that it manifests as the "pillar of tradition" (Abrah 2014: 21). When inhabiting a state of excess water, people might

become stationary, prone to stagnancy and unwelcoming to change. In such cases it the warming carminatives, such as ginger, that will facilitative a return to movement (Abrah 2014: 21). As described by herbalist Phyllis Light, water is connected to the circulation of all the fluids of the body, to saltiness, and to a propensity to exist always in relationship, picking up minerals (2018: 200-1).

I catch up to the group in a small clearing. There are small patches of exposed stone, of crunchy crisp lichens, and amoung them tall slender stems of Queen Anne's Lace, topped with a snowy nest of tiny blooms. It is easy enough to confuse this plant for the poisonous Hemlock, the plant famous for its felling of Socrates, save for the telltale marking of Queen Anne's Lace; namely its single, burgundy dot in the centre of its flower. We have paused here to discuss this hot and dry aromatic plant, classically mercurial and used paradoxically to both prevent and prepare for conception. We crush the leaves and smell its oils, carrot-like given its membership to this family of plants. Warming to the body, the aromatic oils of such plants are often carminative, aiding in digestion, and tend to be antimicrobial.

David Abram notes that within western traditions animacy is understood as a kind of "fire that descends from a divine realm beyond the physical cosmos to inspire and enliven the drab stuff of the world" (2010: 54). Within herbalist practice, the fire element is understood to manifest in the body both as heat, and its absence. Choleric temperaments however typically carry excess yellow bile and dry heat (Abrah 2014: 19-20).This typically is associated with ambition, anger, and rushing into action (Abrah 2014: 20). The choleric temperament however is not always so self assured, and if any self-doubting tendencies take seed, depression might result. The dryness of this temperament is then best served by the cooling and moistening herbs that might soothe and dampen fire. These could include dandelion root and chickweed, cooling herbs



Flavinoid rich garden roses and their thorns, 2020

that in their bitterness may also sooth the nervous system in preparing to properly digest (Abrah 2014: 20). Phyllis Light notes that fire is inherently an oxidative process in the body, and thus connected to metabolic processes and digestion; processes often assisted through use of bitter herbs such as those noted above (2018: 71).

Onward now through the woods we come to a thicket of young dense growth. Abrah asks us to take note of the feeling in our bodies here. The atmosphere is notably cloying and choked. There is competition underway. But as we continue into the older bit of forest, with broad extensive maples, Abrah asks again to take note of the sensations that this new terrain generates. There is a quiet solemnity to this space, a compelling call to stillness. The terrain is open and we can see for some length through the forest. There is an established kind of balance here, an un-rushed calmness. One tree ends where another begins, leaving behind the more visceral and cloying competition of the younger, denser growth. An understory too has had the chance to mature. Low and behold, possibly the most unpretentious of such vegetal forms appears before us. Wild sarsaparilla, an adaptogenic tonic excellent for respiratory ailments, energy, and stress management provides a low shrubby layer to the forest and surrounds us. We unearth its rhizome to carefully count the rings of its growth at the base of its stem. This humble plant is often older than one might assume, sometimes even reaching into an at least three decade span of existence. We bury the rhizome again, leaving it to shed its current leaf and stem, so that it might in turn push forward another collar of growth to mark the passing of next year's stem.

It is here that Abrah reminds us that in some traditions, notably that of Tibetan medicine, space too is considered an element. Indeed in the cloying closeness of the forest's edge, thorny hedge plants tend to do well, creating a dense thicket as a kind of barrier. As herbalist Tamara Segal noted in her presentation at the 2020 Canadian Herbal Conference on her session about Prickly Ash, this dense growth of the hedge tend to provide not only medicine that protects the blood-vessels and circulatory system as a whole, but serves physically to offer the same kind of protections in its environment. These thorny, hedgy corridors carry the lifeblood of biological diversity (Vanneste *et al*. 2020)**.** So too then the element of air is often linked to the sanguine

temperament, and to blood (Arneson 2014: 20). This often indicates a pleasure seeking, project starting, active and confident type of personality, but one that might easily overindulge and create propensities for the diseases of excess (Arneson 2014: 21). Phyllis Light links air and wind to the nervous system, sourness, and levels of oxygen in the blood (2018: 219-20). With these associations, the air element is also linked to the realm of ideas and information, and is perhaps of a flighty nature (Light 2019:220). Here both astringent and flavonoid rich herbs might be of use: Raspberry leaf and agrimony then might offer this drying astringency, while hawthorns and rose hips provide antioxidants necessary to repair the damage (Arneson 2014: 21). Note that many of these herbs are barbed or prickly in some way. But even in areas extensively deforested and used for agriculture, a healthy network of hedgerows can offer safe haven to countless other forms of life typically pushed out of the mono-crop ideal or plantation. Indeed "[w]herever life is going on, earthly substances are binding with the medium of air in the ongoing formation of the ground" (Ingold 2015: 43)

Finally too there is earth, the melancholic disposition dominated by the humour of black bile. Drawn both to tragedy and romance, the melancholic might overlook the mundane realities of life, and live through a kind of idealized rendition of life (Arneson 2014: 22). As such, "[the melancholic, unable to digest life, suffers with the illnesses associated with malnourishment" (Arneson 2014: 22). To this end warming but nourishing herbs, such as oat seed might offer balance to these temperaments (Arneson 2014: 22). For Phyllis Light, earth people are often cold and display a certain lack of movement, nonetheless earth is represented in our solidness, our physical structure (2018: 238-39).

And so, we come to a dip in the landscape. Abrah asks us to interpret what has happened here. We look closely. While there is no water now, deep craggy scars in the soil indicated that

this is a channel where spring runoff digs deep, and further on, this water, at least in damp years, has come to a standstill and saturated the soil. But this year has been dry. The muddy soil of the frequently wet and damp areas is now cracked, a constriction occurring in contrast to its typical watery expansion. We too then, in some sense, contract and circle back as we finish our looping trek and return to Abrah's house. We finish up and disperse. As Tim Ingold elucidates, the connection between the word "human", and "humous", latin for soil figures humanity as "people of the soil", coming from it, and returning to it in our burial (Serpentine galleries 2020). As such, there is not plant of combination of plants that has us cheating death forever, it is perhaps then soil that is our ultimate gesture of pharmacopoeisis. Of course in this process it is Plantain that accompanies us, lining the road on this journey as we slowly make our way back to the earthy burial mound and returning our matter to the elements once more (Storl 2017: 116).

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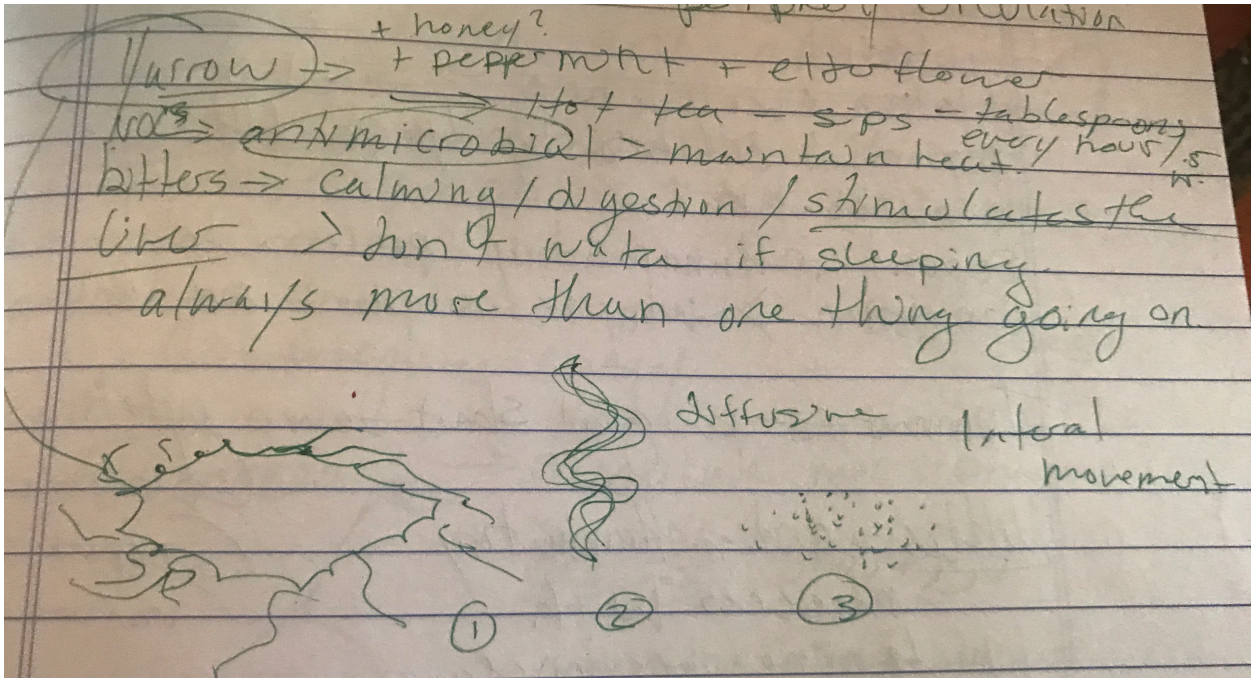
Inherent to herbalism then is a general recognizance of these, an other vital forces, as they manifest in myriad permutations within all living things. In general it is understood that bodies, much like self-contained ecosystems, contain a kind of "self-regulating and self-healing intelligence" (Wood 2005: 15). This self regulation then operates through forces of attraction and repulsion, functioning sympathetically with "foods" or nutrients and in antipathy to "poisons" (Wood 2005: 15). For me, learning to disentangle and make sense of such vital forces in the body has come in fits and starts, but slowly recognizing the play of the elemental balance in the body, as well as within medicinal herbs, emerges most profoundly in the experience of taste; indeed taste has proven to be one of the central tools in coming to know and understand the medicinal usage of plants. As noted briefly by Tatiana Chudakova, knowledge of the elements is often wrapped into understandings of taste (2017: 341). At every session, before the pandemic



Sketches and class notes on the taste/ effects of a Yarrow, Achillea millefolium, tincture à la *Natasha Myers (2019).*

that is, bottles of tinctures, fresh plant alcohol extractions, awaited us. Sitting in a circle after lunch we passed the small brown bottles, and squeezed two or three drops of the liquid on our tongues, silently observing the effects of the plants in our bodies for a minute or so before discussing. Lobelia's acridness clings to the back of the throat, but releases tension in the diaphragm. Thyme's sharp aromatic oils swirl across the back of the tongue, bringing heat up to the head, and in my case, a hot angry headache. Celery seed's saltiness eases tension in the kidney's, neck and shoulders, for me a pleasant discovery. It is clear that our tongues and bodies can indeed interpret the doings, and goings-on of such plants. Soon after several such tastings however, the plants and tinctures begin to meld, effects seem to blend sideways into one another and I am left uncertain about what precisely might be effecting what. Often the session will culminate with a headache as I struggle to discern other sensations. Of this Abrah will say "we have pushed the liver," and perhaps suggest we stop.

While I sometimes struggle through headaches and other such mild unpleasantries, overall I enjoy the experience of describing and sharing such felt sensations in a group. A fellow apprentice for instance, and older woman than me, has a generally hotter and drier terrain than my own. As such, her reactions to herbs are often markedly different than mine. These descriptions of differing felt sensation in the body are fascinating for their variation depending on constitution. While for me *Monarda sp*. evokes a tingling sensation in the throat, other apprentices report full bodies shivers after taking it. Through these discussion and comparisons, Abrah reminds us of our first session walking in the woods around her house, observing terrains and patterns of growth in the landscape. Thick dense young forests contrast with the open space and airiness of open old growth stands. High-ground differs from the wetter low ground by the lake. These different plants find themselves in various open ended gatherings as the terrain shifts (Tsing 2015: 22-3). Then there are the more direct correspondences (Ingold 2015:153) between humans flesh and elemental interactions in the body; dried out creek beds will resemble the dry cracked patterns of hot and dry tongues. Overconsumption of sugar by contrast creates a pale and bloated tongue, over saturated with water. Such tongues will swell and press against teeth, forming telltale scalloped edges. Flesh then resembles soil, a medium in which all elements are at play.

Here there is continuity between land and body. As such, meandering over land might resemble the sensation of wandering through the human body. Indeed herbalist Mathew Wood in describing the doctrines of vitalism notes that "the human exists as a whole entity, while still comprising a part to something larger; in this sense then, there is an overall correspondence between all things in the "macrocosm" (the universe) and all things in the "microcosm" (the individual)" (Wood 2005:18). Like Deleuze and Guattari's characterization of the wasp and the orchid, we see deterritorialization and reterritorialization at play.

> The orchid deterritorializes by forming an image, a tracing of a wasp; but the wasp reterritorializes on that image. The wasp is nevertheless deterritorialized, becoming a piece in the orchid's reproductive apparatus. But it reterritorializes the orchid by transporting its pollen. Wasp and orchid, as heterogeneous elements, form a rhizome. (Deleuze & Guatarri 2004: 10).

As such a corporeal experience, for instance, characterized by hotness and dryness is generally harder, firmer and lacking generally in moisture; the tongue, we are taught as per traditional Chinese medicine's practice of tongue diagnosis, might be bright red and cracked. In conditions characterized by an excess in heat and dryness, when occurring in hot or dry constitutions, might, according to generally held principals of herbal energetics, point us toward the use of plants that counterbalance such tendencies; namely moistening and cooling herbs. The moist qualities of say, Plantain's seed, might be effectively deterritorialized, or summoned by the herbalist, from the physical terrain of the land, and reterritorialized into the human body. Brought together, a rhizome between human, herb, and terrain is invoked. Thus a person is potentially altered by their communion with a given plant, both emerging within a contextual environmental terrain. In this way there is a sense of continuity and adjustment. Herbalist assessment and follow-up is then a means of thinking through ailments, the particularities of a given human body, introducing herbs, seeing what they do, and adjusting as needed. Running through this all is a "vital activity" which is both " making itself " and "unmaking itself"(Bergson 1911: 248). In this too, of course, there is the betwixt and between of liminal transition (Turner 1969).

Here we begin to grasp the ways in which humans exist in continuity with the vegetal, and forming age old lines of flight and possibilities; here change too is made, and made anew (Deleuze & Guatarri 2004, 10; Laplante 2017, 43; Houle & Querrien 2012). As in Annemarie Mol's work, "I eat an apple" (2008), an infrequently acknowledged melding occurs:"for how to separate us out to begin with, the apple and me? One moment this may be possible: here is the

apple, there am I. But a little later (bite, chew, swallow) I have become (made out of) apple; while the apple is (a part of) me" (2008: 30). In such mundane complexity there is much to make sense of. Traditional western herbalists then, like the shamans and plant healers noted in Julie Laplante's work, serve as interlocutors in the process of merging with the vegetal; preparing plants in ways that can be digestible (2017, 44:51).

This relationship between the terrain of the land, and the terrain of the body is central to herbalist practice, indeed it is precisely what herbalists such as Abrah would suggest set it apart from allopathic pharmacy. In the student clinic for instance, assessment of the terrain follows a process of careful consideration as to the terrain of the person, the nature and impacts of their illness or imbalance, and the impacts of appropriate herbs. Returning to our cytokine storm for instance, a fever entails an intensification fo the fire element and heat in an attempt to ward of a pathogen. Here, the human body responds to invasion as we have seen, and a herbalist view would not so much entail the quelling of a fever, but rather an effort to support it. As such, diaphoretic herbs, such as peppermint, cat nip or boneset, might be used to stimulate peripheral stimulation and perspiration. This in turn cools the body enough to keep the fever stable and sustainable. So in the same fashion that a herbalist might commune with plants, so too do they intuitively assess the body, reading the terrain through what Henri Bergson might understand as a kind of "spatial intuition" necessary to both processes of deduction and induction (Bergson 1911: 212-3). Undergirding this of course is the "self-regulating and self-healing intelligence" of vitality, the attractions and repulsions of which herbs may either fortify or adjust (Wood 2005: 15). To this end, traditional western herbalists are using a kind shorthand, perhaps for the sake of intelligibility, when indicating that they are

> "comfortable with one foot in the world of the reductionist methods scientists use in researching plants sand their complex chemistries, while…[the] other foot is firmly planted in the intuitive approach used beyond memory to understand the relationships between body and plants" (Arneson 2014: 27).

As a fledgling herbalist, myself, I do not always know where my feet are, but I find myself looking toward a kind of pharmacopoeisis, toward the "vital materialities of plants" and their "complex relationships of incorporation" (Chudakova 2017: 341). Perhaps then, we are not so much one foot in one world, and one foot in the other, but simply both. After-all, herbalism itself embodies part of the rejected vitalist components of western medicine more generally, a loss which current herbalist revisitations in some sense attempt to make whole.

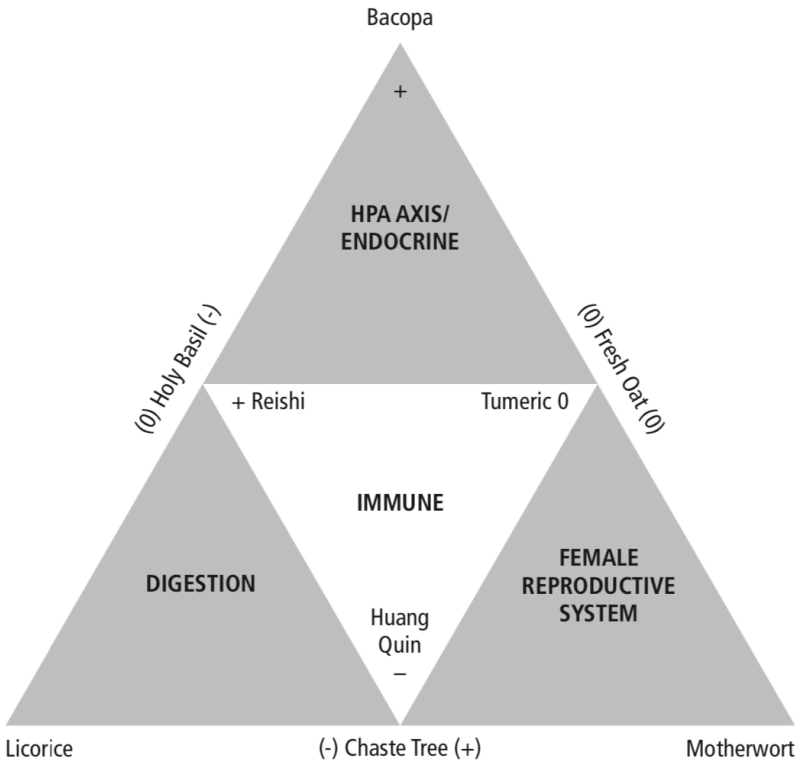
To this end,Western herbalism serves as an open reminder that even the "reductionist methods of scientists" emerge from their own brand of trickery and magic, as "vivid instances of animism"(Taussig 2015: 14). Perhaps this mode, akin to Taussig's agribusiness style logic, "is more magical than magic ever could be", though in a potentially dark and wayward manner that warrants some challenge (2015: 10). To this end, herbalism sometimes inhabits a kind of apotropaic, or protective mode of magic, which seeks to undo established orders, to re-enchant, to make acceptable the necessity of mimesis, and to ensure that in destruction, something new is also made (Taussig 2015: 10). In this sense, rather than demystifying the plant and laying it bare for only its chemical functions, there is an openness about the herbalist take on herbs and their sympathetic magic in the ailing body; there is a willingness to see the corn wolf as it manifests in the sheaf, in the human who binds the sheaf, and as a vital force that inhabits both (Taussig 2015: 2). And so from assessment of the terrain, we move now to the art of herbal formulation.

Chapter 9: Triune

Formulation of herbal medicines, whether they be tinctures, teas, ointments, creams, oils or otherwise, comprise a central part of herbalist practice. In my own apprenticeship this more advanced herbal learning began in the second year in Abrah's program, or in September 2020. While I had been making medicines for sometime, and throughout the first year of the apprenticeship we had spent time getting a sense of various herbs, herbal energetics, and their various applications and preparation, year two focused more explicitly on herbal assessment and carefully considered formulation. Formulation in this context entailed a process of matching specific herbs to the troubles described by clients, as well as acknowledging and addressing the context of their the current corporeal constitution or terrain. As second year apprentices then, we quickly got to work in practising formula composition, most often composed of tincture and tea, and soon began assessing clients and creating specific formulas under Abrah's supervision.

In this context then, I realized that the isolated project of getting to know herbs, a project in which I had been engaged for some time, seemed to fall flatter then I might have realized when faced with an actual ailing human. Herbs after-all are often taken in combination, in synergy and relationship to one another. Suddenly I was confronted with the limitations of my knowledge, grotesquely aware that I had learned what seemed to be the equivalent of sounding a single note on a musical instrument, while not yet being capable of playing a song. Herbal formulation was then akin to kind of composition, a blending of various tones and chords that worked synergistically to adjust the body. One of the methods utilized by Abrah in the teaching of herbal formulation, was William LeSassier's triune method.

LeSassier is described as being amoung the first herbal practitioners in North America to make use of herbal energetics, accounting for how the four elements manifest in the herbs themselves (Winston 2010: 7). Drawing from his experiences with Traditional Chinese Medicine and Ayurvedic medicine, LeSassier proposed that all herbal formulas should have one herb that first might build up and strengthen the body (indicated by the + sign below), second to tone and normalize (indicated by 0), and finally to eliminate and detoxify (indicated by -) (Winston 2010: 7). This first triad of herbs might then be useful in addressing an acute health issue, or in treating a person with only one problem area in the body (Winston 2010: 8). The full triune however, a full nine herbs, is designed to assist people with complex health issues or more than one problem area in the body; essentially shifting the "entire organism" (Winston 2010: 8).



"Case Study" from David Winston's (2010) "The Triune (Triangle) System of William LeSassier". Journal of the American Herbalists Guild. Vol 9, No. 2. 7-12

In our zoom classes and assessment, a take on the triune was regularly employed. Often, after a collective discussion and brainstorming session, Abrah would have us take breaks from our zoom discussions, during which we would design individual formulas to present on our return, discussing them as a group. While we were not strict adherents to the triune model, mostly making formulas with fewer than nine herbs, it served as a useful model for visualizing the needs identified by the client through assessment and in creating a systemic view of the terrain and health difficulties. In the formula provided above by David Winston for instance, the primary treatment focus on the immune system is determined through an assessment process in which allergies and thyroid problems were identified. The adjacent triangles represent interconnected problems relating to perimenopause, anxiety, digestive upset, and so forth.

In accordance with the triune model, Abrah was adamant that our formulas should always have a clear focus, that they should consider the client's constitutional orientation, as well as consider ecological impacts of the medicine in question. Through this process, it was made explicit that there was no one "right way", but a need for each practitioner to think through an approach to the difficulties at hand. From here, the creation of formulas relied on not only on the information garnered through assessment, but on knowledge of the plants individual traits, the type of preparation made, and the synergistic connections with other plants. Circulatory stimulants for instance, might help to carry another herb through the body, tonic herbs might support quicker acting effectors, and warming herbs might counteract the cooling effects of colder herbs. Mucking around with triunes then served as a powerful way to visualize the relationships between herbs and the body. Beyond this however, the triune structure of formulating seemed to gesture to a certain significance in the number three, and in a more profound expression of work-

ing simultaneously in the medicinal realm of addition, subtraction and neutrality (here perhaps best interpreted as tonic fortification).

Partition by threes has been described by some as a common feature to Indo-European thought and practice (Dundes 2019:206; Storl 2017:115). Folklorist Alan Dunes has for instance noted in the book chapter *Number 3 in American Culture*, that triads often appear either as a defined limit, expression of extremes between a mid point, the splitting of polarities, the amalgamation of two disparate entities, part of a compulsive repetition, or as a 3 in 1 configuration such as a triune (Dundes 2019: 207-8). The examples provided by Dundes, while perhaps leaning too much into reified notions of culture, gesture to the triads that appear in American "culture" and beyond, are prolific. Indeed Dundes likens this recurring patterning to our triptych experience of time as past, present, and future, and also to the structure of the english language itself (Dundes 2019: 217, 219). Anthropology too is awash in threes, take for instance the tripartite structure of Von Gennep's rites of passage (Dendes 2019: 222). Through all of this, Dundes concludes somewhat numbly that "[t]richotomy exists but it is not the nature of nature. It is part of the nature of culture" (2019: 223-4). After-all, is culture not a part of nature?

Wolf Storl has taken a similar tone, noting that a "one cup of tea, three times a day" has been a medicinal staple in many parts of Europe since antiquity (2017: 67). Like Dundes he echoes that "simple herbal tea taken three time a day is not a universal but a culture-specific construct of the European woodland culture" (Storl 2017: 73). From here Storl emphasizes the triad of fire, water and cauldron, greatly valued by neolithic people of central Europe (2017: 112-113). The elements of fire and water for instance, likened to a father and mother, were understood to be mediated through the kettle or cauldron, serving as a recurring motif in Celtic imagery symboliz-

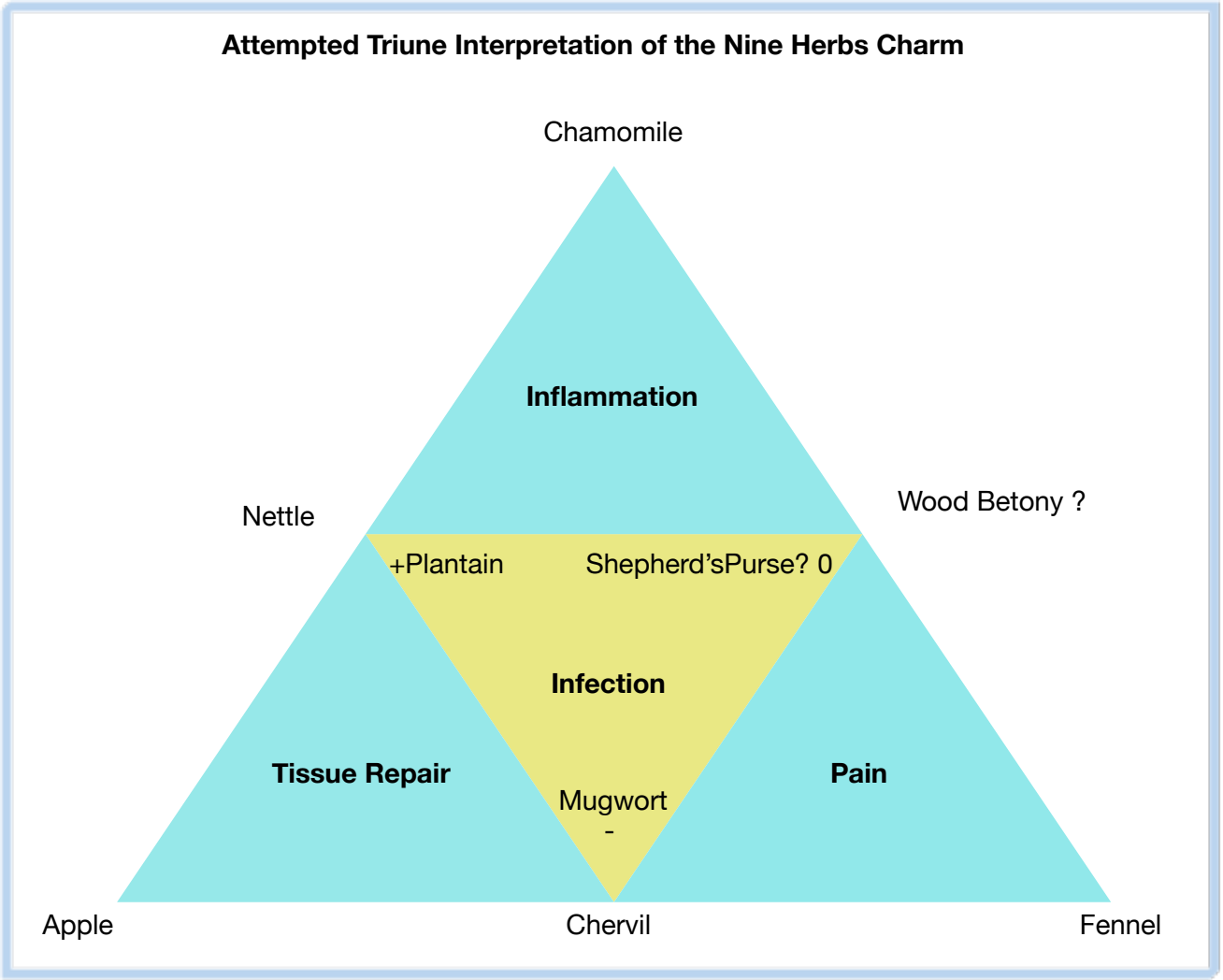
ing fertility and generative force (Storl 2017: 113). In these metal or clay cauldrons, fire, water, and plants were brewed into healing teas, and occasionally too, beers. Indeed the brewing of beer and alcoholic beverages is surmised to have prompted a shift away from nomadism toward brewing, baking, and agriculture (Storl 2017: 116). This "primordial image of the sacred cauldron and the fertilizing, warming, protecting spirit of the Sun God still lives on today, despite the conversion, in the legends of the Grail Knights" (Storl 2017:125). "Healing is generated" as cauldron becomes grail and disparate forces "are joined together again"; here "the vessel with the hot, healing herbal tea is in full of harmony with this cultural theme" (Storl 2017: 126). In these supposedly "cultural" themes, "nature" hardly seems absent.

Herbs however did not act alone in their healing capacity, Storl notes the force of stone and therapeutic words were also considered to have great healing power (2017:68). Like the three cups of tea, "a charm must be spoken three times in order for it to work" (Storl 2017: 128). Returning then to the Anglo-Saxon Nine Herbs Charm from the Lacnunga, it is notable that twice the text compels the herbs to remember that they have the "power against three and against thirty" (Pettit 2001). This is surmised to bear connection to the frequent use of multiples of 11 in Vedic charms, and that "the number 33 was an especial favourite in Sanskrit writing: the gods number 33" (Grendon 1909: 228). The Nine Herb's Charm itself specifically indicates a formula and directions for the making of a kind of salve, featuring also our talisman herb of plantain as waybread (Pettit 2001). The charm further directed the markers of this salve to hypnotically repeat the incantation three times to each of the herbs, and then also into the mouth, ears and wound of the recipient before applying the salve (Petit 2001). It is stated in the charm itself that "Woden took up nine wondrous staves [herbs], struck the adder so that it flew apart into nine parts" (Storl 2017: 354). Indeed adders, or worms, were frequently conceptualized as "diease-

bringing worms", an understandable presumptions given that "countless maggots can occupy festering wounds or corpses" (Storl 2017: 351). Plantain's association then with snake medicine is perhaps here alluding to its tendency to pull out infection, poison, and putrefaction. In some sense then, the mesmerizing repetitions of this charm, alongside its associated triune of herbs, was perhaps seen as a kind of snake charming; a task likely embroiled in the warding off of infection and illness.

In all of this, I found myself wondering, what might this nine herb charm formula look like were it represented as a triune? What precisely might come to light? The diagram below serves as a kind of experiment in how such a formula might begin to be rationalized now. The middle triangle for instance, seems as though it would clearly centre mugwort, plantain and *stune* (an herb whose botanical identity is no longer known), and would mostly likely address infection (Storl 2017: 518). Here mugwort is the primary herb, invoked as having "power against poison and against infection", and also perhaps called upon for its antimicrobial potency (Storl 2017: 518). Meanwhile plantain in this invocation is summoned for its remarkable capacity to recover from being crushed underfoot, and thus for regenerative properties that accompany the expulsion of poison or infection (Storl 2017: 518). The mysteriously named *stune*, its translation into current language now unknown, is generally presumed to be a kind of cress in the mustard family (Storl 2017: 519). Of this it is hard to say much, though some astringent action might be assumed, though perhaps this plant was chosen for its capacity to pull the tissues of a wound together, assisting in the prevention of infection and bleeding. I have assumed here that this plant may be Shepherd's Purse for its blood staunching capacities, and also for simplicity's sake.

The second segment of our triune starts with another unknown herb identified as *Atterlothe;* possibly derived from "adder" and "loathe", it is most commonly assumed that this herb



would now be known as *Stachys betonica*, or European Wood betony (Storl 2017:519-520). Wood betony has historically been used in the treatment of snakebites and infections (Wood 2017: 165). Next up is Chamomile, and while we do not know whether it is German chamomile or Roman, both are rich in volatile oils which considerably reduce inflammatory responses (Wood 2017: 201). In the context of the charm, Chamomile is extolled as a kind of preventative medicine given that those who consume it as food "should never give up his life for disease" (Storl 2017:522). Finally too there is stinging nettle, which here "stands against pain… [and] poison" (Storl 2017: 55 &56). With this triad, I have opted to group these herbs through their various anti-inflammatory actions.

Next, we have a now unusual kind of herbal ingredient, apple (Storl 2017: 532). While apples later became associated more broadly with sin, it is seen as an antidote to "the loathsome serpent" and to poison (Storl 2017: 534). While the charm calls for the use of apple juice, apple cider vinegar might well also be the intended ingredient, a substance still used by herbalists as a solvent and preservative for herbal preparations. Regardless of the preparation however, I have here placed the apple in a triad addressing tissue repair given its flavonoid, or anti-oxidant content. Chervil and fennel are grouped together as a pair for their action against pain and poison (Storl 2017: 536). The *Apiacae* family, of which chervil, parsley and celery are a part, have historically been topically used to ease arthritic pain and for their nutritionally dense polyphenol content, which again assists with tissue repair (Chevalier 2016). Fennel too, traditionally used for colic is considered an antispasmodic with the potential to relax muscles (Wood 2008: 257-8). As such I Interpreted this to suggest perhaps that these two herbs were added to address pain.

This experiment in mapping out the Nine Herb's Charm, and displayed in the diagram above, exemplified a moment in which the triune started to pop up for me in unexpected places. In October for instance, shortly after having processed a considerable amount of the common medicinal "weed" Bidens, I had a dream about one. My partner handed me a bit of paper with a crude triune drawn out, and containing only the herb bidens while we were at a restaurant with friends, firmly insisting that my aunt would need it. While I noted the dream, and found it interesting, especially given that Abrah had indicated that the composition even of one plant was like a formula unto itself, or that one herb processed in different solvents, or harvested at different times might yield very different medicines, I mostly shrugged it off. It was some time later, as I continued developing triunes and participated in assessments, that I realized the potential con-

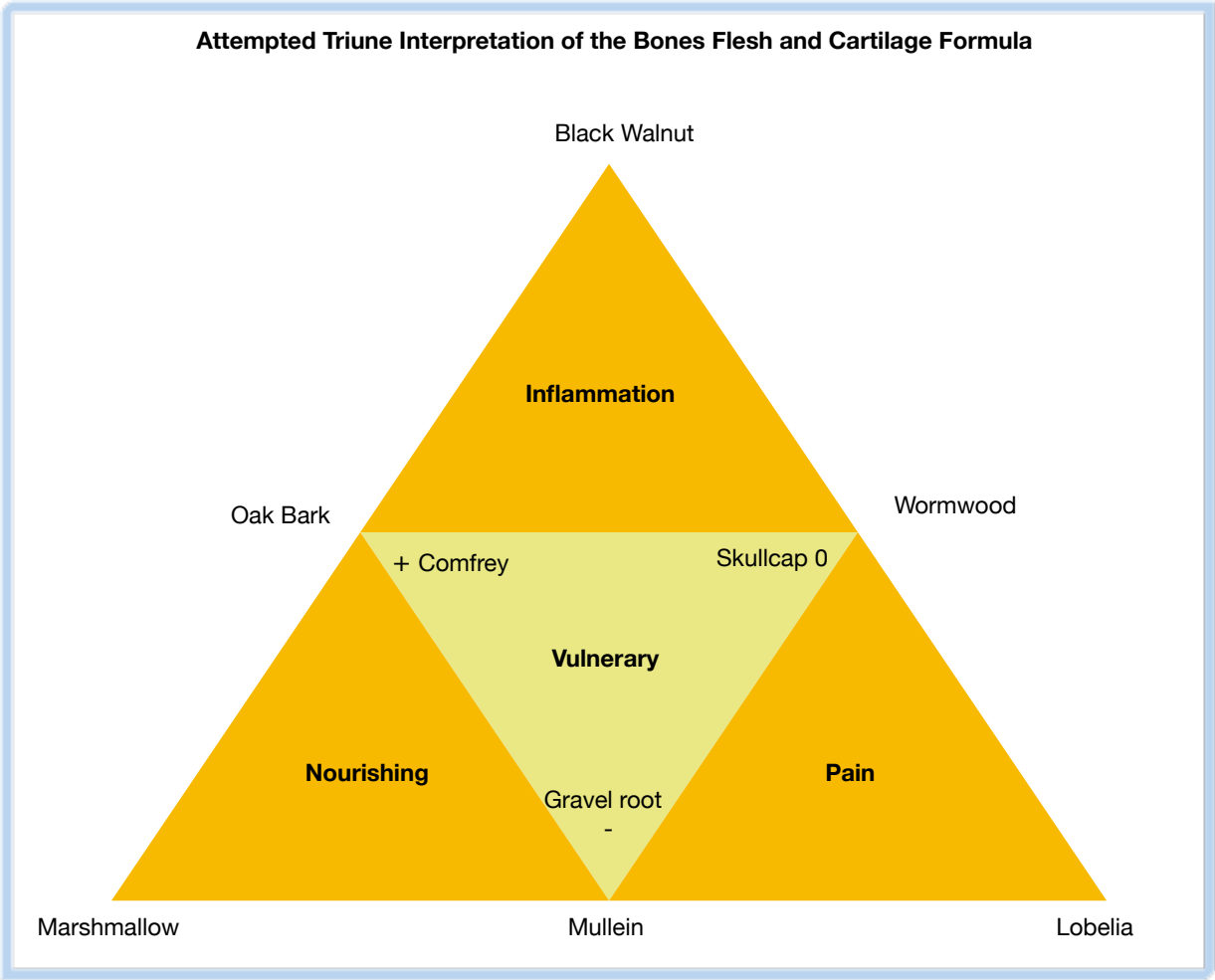
nection between triune formulating, and the structure of nine herbs and the Nine Herb's Charm. Looking now at the representation offered above I see perhaps a glimmer of one potential logic undergirding the formula, but first and foremost it seems to highlight that the true context of the formulas creation and use are now gone. My attempts here displayed above serve mostly as an exercise that shows my own novice understanding of the interactions between these herbs. Indeed these are herbs I do not, for the most part know well, and that in the larger herbalist context would seem like bizarre choices by todays standards. Indeed the consensus of understanding of the known herbs, never-mind those whose translation is uncertain, has changed substantially over time. As such, this triune, while an interesting exercise, reinforces the logics of my own time and place rather than illuminating those of the past.

There is however another, very different formula which through this second year of my herbal apprenticeship has been central, namely the bones, flesh and cartilage formula of Dr. Christopher. Dr. John Christopher was an herbalist and naturopath who practised in Utah throughout the great depression, serving as predecessor to the generation of "back to the land" herbalists who trained and emerged through the 1960s and 1970s. Operating as he did without access to global trade networks of exotic herbs, Dr. Christopher relied on what he had at hand, and clearly knew even the more obscure uses of his herbs. Because he worked and practised under considerably different circumstances than those in-which herbalists work and operate today, Abrah often used his Bone, Flesh, and Cartilage (BFC) formula as an example for us. However the formula proved to be useful to many of the clients we assessed: due perhaps to increasing operational stress related to home office computer use. The formula itself begins with the central herb of Comfrey, a vulnerary, or tissue repair herb, known as a cell proliferant in the rebuilding of bones and other tissues, also followed up with eight other herbs as listed below:

Bone Flesh and Cartilage (BFC) Oil:
Comfrey Root - a potent vulnerary that promotes the re-building of healthy tissues
White Oak Bark - astringent and source of useable organic calcium
Mullein Leaf - helps to address immune response and swelling
Black Walnut Leaf - anti-microbial and mineralizing
Marshmallow Root - moistening and high in assimilable protein for muscle rebuilding
Gravel Root - solvent of inorganic calcium creating stones, plaque etc.
Wormwood Herb - offers some relief from joint pain and inflammation
Lobelia Herb - relaxing anti-spasmodic
Skullcap - supports nervous system function and repair. (Christopher 1979:3-4)

While some of these herbs are still commonly used, Oak bark and Black walnut leaf are for instance quite rarely used now in herbal formulas. The use also of Wormwood as something other than an anti-parasitic bitter is rare now.

Unlike the Nine Herbs Charm, Dr Christopher's writings, closer to us in language and comprehensibility, clearly demonstrate his logic in creating this formula. Indeed his own philosophy fits well with the general building, toning and eliminating actions emphasized within LeSassier's triune model. William LeSassier and Dr Christopher would, after-all, have been contemporaries. Even still, with all these alignments and with Dr Christopher's lengthy prose about the formula, I still have some difficulty in discerning which herb in the triads might be actually be toning, building, or eliminating pathogens or waste. Indeed often this seems to be a confusing exercise in discerning perspective and intention. It is noteworthy too that Dr. Christopher's own account of developing this formula throws to the wayside any such calculated musings. He indicates he was presented with a case in which "a lady came into my office in a frantic state of near hysteria" (Christopher 1979: 2). It turned out that the woman's fourteen year old daughter had attempted suicide that morning after a lengthy spell of suffering from dermatitis affecting her skin from the knees down to her feet, and from her elbows down to her hands. Dr Christopher notes that "I had never had such a case presented to me before" and my "back was up against the wall" (1979:2). Being a devout mormon, Dr Christopher, finding himself without time, "offered a



quick silent prayer for help and a formula came immediately to mind" (1979:2). After following his directions, the girl made a relatively quick recovery.

While Dr. Christopher might have seen this formula as a form divine intervention, I can't help but wonder how much of his honed familiarity with the herbs in question might have had a part to play. Indeed Intuition, as we have previously seen, is a key part of herbal practice. Abrah for instance would sometimes suggest that we take a written formula and imagine it over the person for whom it was designed, intuitively feeling if the formula was right, and going with our "first impression". This resonated too with Abrah's proclivity to compose herbal formulas in odd numbers which she described as feeling "more dynamic" and perhaps provocative, while even

numbered formulas were more balanced. Formulation then, as with all forms of making, comprises "a process of growth" in which "developing a rhythm and a feel for the material" is central (Ingold 2013: 21 & 3). This fits also within Henri Bergson's notion that "when I trace roughly in the sand the base of a triangle, as I begin to form the two angles at the base, I know positively, and understand absolutely, that if these two angles are equal, the sides will be equal" (1909: 211). He is clear that "I know it before I have learnt geometry", and as such there is a kind of "natural geometry whose clearness and evidence surpass the clearness and evidence of other deductions" (Bergson 1909: 211). This virtual geometry then degrades "itself into logic", loosing its purchase in intuition and cycling back (Bergson 1909: 212). Indeed as Bergson notes, all systems are at least in part, "vivified by intuition" (1909:212 &238). For herbalists too then, the dialectic between intuition and intellect is at play. Indeed this"[d]ialectic is necessary to put intuition to the proof, [and] necessary also in order that intuition should break itself up into concepts and so be propagated" (Bergson 1909:238).

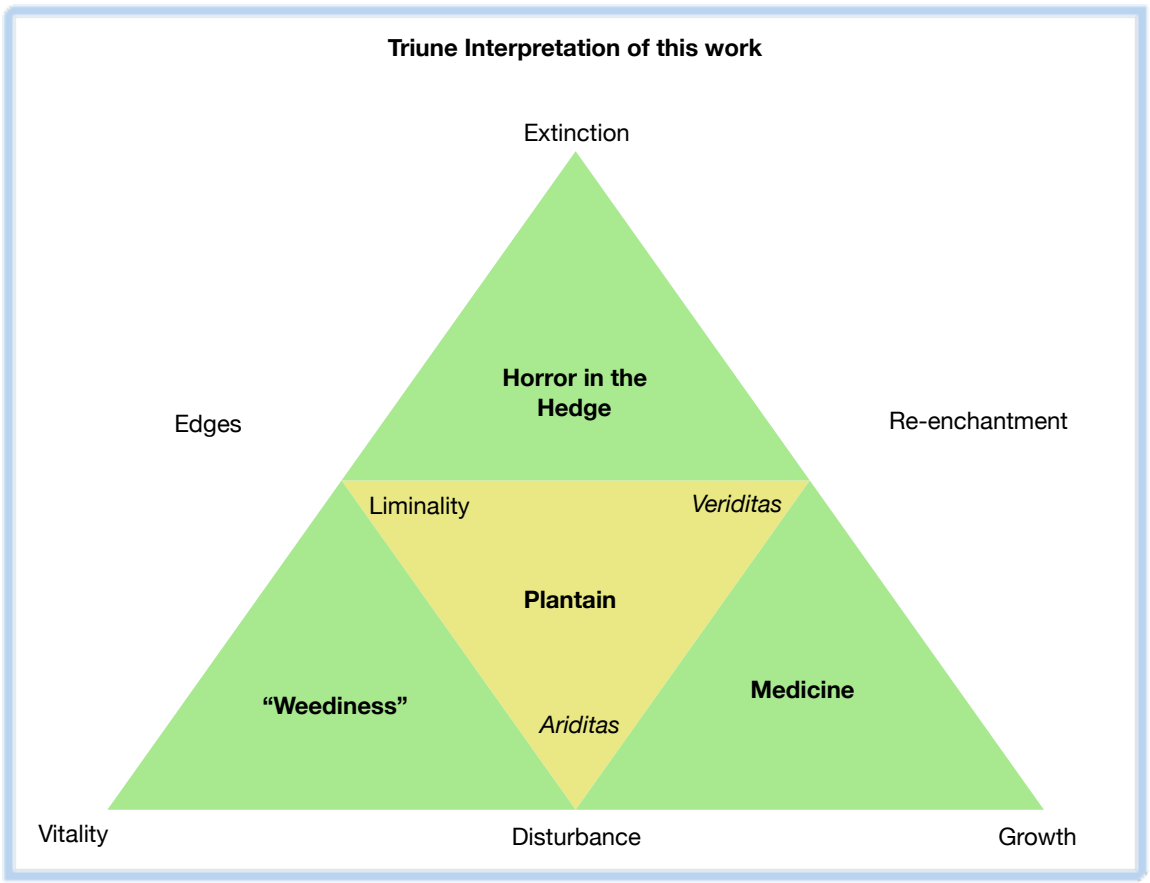
Let us return now for a moment to this question of odd numbers, triads and vibration. Musically of course the number three is important for being the minimum necessary number of notes to comprise a chord, but it is the tritone that has been a historical cause for controversy. Comprised of a half octave, the tritone is "the sum of three whole tones" (Jaffee Nagel 2010: 12). Given its notorious status as an "altered interval", the tritone was largely avoided through the medieval era, possibly because of its alarming dissonance, and generally considered unstable (Jaffee Nagel 2010: 12). Banned by the catholic church, this interval was thus known as *diabolus in musica*, or "the devil in music" until the end of the renaissance period, where it was used increasingly to create "harmonic and emotional uncertainty"(Jaffee Nagel 2010: 12). The tritone now is famous for its association with heavy metal, displayed most clearly in the opening notes

to Black Sabbath's 1970 release *Black Sabbath*. These discordant tones are found elsewhere too, notably within the opening theme to *The Simpsons*, and were utilized by the likes of Wagner and Holtz. Drawing on the tritone's use in the musical *West Side Story,* Julie Jaffee Nagel writes that "[i]t is precisely the imperfect, enigmatic quality of the tritone that identifies ambiguity in the moods of the characters" (2010: 13). In her psychoanalytic look at the tritone's use , Jaffee Nagel emphasizes that it "not only sonically emphasizes the ambiguity and complexity in mental function-ing, but uses the *diabolus in musica* as a "war"-ning siren for…[all those].. who patrol streets" and in essence, face the possibility of death (2010: 21). In short, the tritone seems to evoke moments where tensions run high, and as Dr Christopher described, where backs are "against the wall".

The tritone then seems to encompass a certain kind of liminality, a culmination of tensions which demand a shift, and bring things to a head. The making of formulas, strives to provoke just this kind of shift; emerging too through assessments comprising a kind of healing ritual unto themselves. This, in and of itself, is potent given that ritual expressions themselves relieve suffering, but in these oddly numbered herbal formulas these triads seem too to offer a kind of contingent ritual designed to placate illness through rites of separation, transition, and re-integration (Kearney 2019: 50 -51). It is in the conceptualization of the triune though the collating of concerns emerging from the assessment that liminal separation here occurs, in fully hearing someone, in organizing and differentiating areas of focus for a formula. Subsequently then, preparing formulas for clients, and monitoring progress sees herbalists determining with their clients when transition is satisfactorily completed, or when tensions are resolved, and reintegration has occurred; in essence, when the formula is no longer necessary. Much as Turner has indicated

then, assessment, formulation and follow-up comprise a tripartite structure for enabling a kind of healing that might constitutes "transitions between states" (Turner 1969: 93).

Through these liminal shifts, herbal formulations provoke a kind of "transition as a process, a becoming" (Turner 1969: 94). In the mode of Deleuze and Guatarri, these herbs, rather than acting as discreet units unto themselves, might be seen as dimensions, or moving lines (1980: 31). It is through the conceptualizations of the triune, for instance, that a rhizome might be made, a rhizome with a particular tension, vibration and feel about it. This in turn interacts with that of the formula's human recipient. The two then, both composed of a multiplicity of beings, become something else agin. This text too, formed in a mimetic triplet of triplets, is much like the triune formula, a kind of derivation of the organic fulsomeness of that which it depicts (Deleuze & Guattari 1980 : 78). So might the tension of three, represented in a kind of Hegelian dialectic, given that "[i]n Yea and Nay all things consist", bring us back a fundamental notion that twos tend to become threes? In this there is a gesture toward the fertile edge, perhaps even "a realm of pure possibility whence novel configurations of ideas and relations may arise" (Turner 1969: 97). Indeed three seems to suggest the tender beginnings of growth, a provocation of that which is yet to come.


Triune Interpretation of this work
Extinction
Horror in the Hedge
Edges
Re-enchantment
Liminality
Veriditas
Plantain
"Weediness"
Ariditas
Medicine
Vitality
Disturbance
Growth

Conclusion

Making our way through "weeds", through horrors in the hedgerows, and finally in the making of medicine, we arrive now at this conclusion. The work above has constituted an attempt to weave, or braid together, in appropriate tension, an appeal to conspiring with, or at least noticing of, our talisman medicinal herb Plantain; known by many names in all its many edgy and mundane habitats (Myers 2017; Wandersee & Schussler 1999). As such, this exploration highlights the many ways in which this plant offers up medicine and vitality to those willing to engage with it. Through the lens of traditional western herbalism, and in learning to see like a herbalist, Plantain then emerges as a part of the fertile edge, a part of the hedgerow, and as a kind of "anti-plantation" force (Tsing 2015: 38). Learning something of the habits of this plant, we too ground ourselves more firmly on the earth, and understand ourselves as a part of the compost and humous from which even our etymological "humanity" arises (Ingold 2020). As the horrors of the anthropocene rage on, Plantain points to the ways we might cultivate Hildegarde Von Bingen's sense of *veriditas* in the face of the drying impetus of *ariditas* (Latour 2017:22: Marder 2019: 138).

As Houle and Querrien remind us, we too are comprised and constituted of the vegetal, though perhaps more saliently, "we partake of the greening greenness that is undeniably more obvious and sensuously present in actual vegetation" (2012, 76; Marder 2019: 140). In this sense "Viriditas is… the energy of creation and of recreation", and while we may lack the verdant greenness, it is present "in us…[though] less perfect than in plants, insofar as its perceptible dimension is missing from human existence" (Marder 2019: 140). I agree then with Robin Wall Kimmerer when she states that "perhaps plantain will line the homeward path," suggesting to

settlers as well that "[w]e could follow" (2013: 261). This homeward path is not behind us in the past, so much as it is something to be made anew. While the histories of hedges and herb charms might inspire a kind of movement toward right relationship, the earth on which our footfalls land is also different (Latour 2017: 13).

As Van Gennep and Turner would then tell us, it is not back to some past version of ourselves that we must impossibly return, but through the distended horrors and isolations of liminality, before we re-integrate anew (Turner 1967: 93). Of course, this does not manifest as a straight line, but perhaps as something more akin to the whirls of new growth and possibility, winding and unwinding as they might through soil and air (Ingold 2015: 57). Or perhaps it could also be the final sounding note of a tritone, offering release from which newness might begin. Herbalism here has then served to gesture to the ways in which making is also a kind of weaving, to how life itself is woven (Ingold 2013a: 291 &295). In this process, form is not so much imposed on materials as it is emergent through improvisation and relational flux (Ingold 2013a: 305). In this relationship to materiality, plants used for the making of medicine reflect states present in the microcosm of the human body, and also in the macrocosm of larger world, manifesting a potential pharmacopoesis (Wood 2005: 18; Chudakova 2017: 341). In mobilizing these potentials, herbalists then consciously weave together new kinds of living relationships. As such, the living spiralling nature of growth is found in the dynamism of herbal formulas. This might be seen as a kind of re-enchantment, but is perhaps also a testament to the fact that despite everything "animistic inclinations remain active underneath all our literate logics" (Abram 2010: 280). In essence then "we are parts of a living world" (Bateson 1979: 17).

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