Beyond extractive ethics: a naturalcultural study of foragers and the plants they harvest

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Thesis submitted to the University of Ottawa in partial
fulfillment of the requirements for the degree of M.A. in Sociology

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Acknowledgements

As I write this, I am preparing to drive through the interior of British Columbia, a region that has been facing extremely severe wildfires for several years. These fires have been devastating for many, yet they are only a warning of the turmoil we might face if we continue down a path of careless exploitation of life. I am grateful for the warnings we have received so far, as they have prompted my transition from chemistry to sociology and inspired this project.

I would like to give thanks to every one of my participants in this research, who have so generously shared their time and wisdom with me. I would also like to thank the nonhuman participants in this study, the forests, fields, ditches, riversides, and backyard gardens that have provided food and medicine for my participants and for myself. They have so much to teach us all if we only listen.

I also know that the land on which I grew up and undertook this research would not look as it does without the millennia-long relationship that the Algonquin Anishinaabe Nation have had with it. I hope that these relationships will be rekindled as the Anishinaabe reclaim sovereignty over their presently occupied territories.

I am eternally grateful for the guidance of Kelly Bronson, who took me under her wing and introduced me to the critical study of science and technology. She has helped guide my transition from chemistry to sociology and helped me navigate the epistemic boundary between them. She has been an invaluable mentor, encouraging me to think critically about ethical scholarship and view academia and research with compassion and care. If I have any success in academia, I know that it will be thanks to her guidance. I am also thankful for my thesis committee, Drs. Nathan Young and David Jaclin, for their time, comments, and encouragement.

A major project such as this is never the work of a single person. I know that I could never have completed this project as I have without the love and support of my wonderful partner Jacqueline, my parents Zenon and Lisa, or my kitty Sprout. I am also grateful for the many insightful and stress-relieving conversations I have had with friends and colleagues including Adrien Serret, Sonali Patel, Rougui Bah, Karine Coen-Sanchez, Alana Lajoie O'Malley, Christine Beaudoin, Marie Suzor-Morin, and Corinne Laporte.

Abstract

We live in a time marked by ecological precarity and crisis. Critical scholars of the Anthropocene have identified extractivism and its associated ideology of human exceptionalism as driving forces behind these crises. This thesis joins a call to develop naturalcultural theory – ways of conceptualizing the more-than-human world and our place in it as humans that do not rely on longstanding distinctions between "Nature" and "Culture." Moreover, scholars and activists have clearly outlined the urgent need for us to change the way we live with nonhumans. As a step towards such new ways of living with nonhumans, in this project I study how foragers foster multispecies ethics through their encounters with nonhumans, using multispecies ethnography as my primary methodology. In this thesis, I develop a theoretical framework through which to understand forager-plant interactions, informed by my experiences in the field interviewing and observing foragers as they harvest plants and directly studying the plants that my participants frequently interacted with. I tentatively propose a distinction between extractive and non-extractive approaches to foraging. Overall, I suggest viewing plants and humans as *living-persons* who are tangled in a field of socioecological relations to one another. Through partial and intermittent encounters, they become contaminated and adopt new habits that affect their future interactions with other living-persons. This has important implications for how we conceive of ethics as only incorporating nonhumans as objects of ethical consideration rather than ethical subjects in their own right.

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Chapter 1 – How did we get here?

We need acts of restoration, not only for polluted waters and degraded lands, but also for our relationship to the world. – Robin Wall Kimmerer, "Braiding Sweetgrass"

Recent years have seen a growing popular awareness of mounting ecological crises. Whereas many could afford to ignore the warnings that were raised throughout the 20th century, it is becoming exceedingly clear that we no longer have such luxuries. Habitat destruction, the climate crisis, and the mass dying known as the Sixth Great Extinction are among the urgencies we must face in our lifetimes to ensure the continued habitability of our Earth. This is not a crisis of life, as Haraway remarks, but a crisis of ongoingness (2016, p. 43). Life will adapt on this planet, but things will not go on as they have been. Whether we continue to have a place in this world alongside all the plants and animals we have come to make our lives with, will be decided by how we respond to the tangle we now find ourselves in.

This thesis is intended as a response to the many diverse crises we face as inhabitants of this Earth in the 21st century and beyond. Although it certainly cannot address every crisis in depth, it cuts to a common feature that underpins many of them: the relationship between humans and nonhumans. Dominant economic-ecological relations are structured around an extractivist paradigm that is grounded in human exceptionalism. The ideology of human exceptionalism not only underlies resource extraction but also many mainstream theoretical currents in Western academia. This exceptionalism is often manifest in a fundamental distinction between self-contained human individuals and nonhuman others. For this reason, in this project, I turn to Donna Haraway's notion of *natureculture* as an invitation into worlds beyond this dichotomous view. This research challenges human exceptionalism on several fronts – conceptually and methodologically, through a naturalcultural framework, and substantially, through research on multispecies ethics among foragers. At a time when the dominant relationship between humans and nonhumans is characterized by crisis and collapse, I turn to foraging as a practice through which broader dynamics of human-nonhuman relations play out at an intimate scale. In order to better

grasp the relationships at play among foragers, in this project I employ a naturalcultural approach. In contrast to most existing research on foraging, which has approached the topic from either an extractivist or human-centric perspective, taking a naturalcultural perspective helps me focus on the social-ecological relationships that abound in what I see during my fieldwork while refraining from taking for granted *a priori* distinctions between "Nature" and "Culture." This naturalcultural approach involves adopting multispecies ethnography as a methodology, which itself involves a blend of conversation, observation, and tracking.

Telling stories in the Anthropocene

Over the last two decades, a lively debate has erupted within academia and among wider publics. The term "Anthropocene" has emerged in recognition of the impact that human activities have had on our local and global ecologies, prompting reflection and debate over whether we could define the era in which we currently live as a distinct geological epoch (Crutzen & Stoermer, 2000). This debate has spilled over beyond the field of geology and sparked the imaginations of scholars and artists who have grappled with the implications of this idea, looking to identify its origins and solutions.

Although widespread, the concept of the *Anthropocene* is far from uncontroversial. Many scholars have critiqued the *Anthropocene* narrative since its introduction, arguing that it is universalizing. It attributes to all of humankind, or the almighty *Anthropos*, the blame for the calamitous ecological harm we are increasingly seeing across the globe (Haraway et al., 2016; Tsing, 2016). Rather than a story of humanity in general, these scholars have stressed the importance of specificity when discussing the Anthropocene in order to achieve equitable solutions that do not place an unequal burden on the people of the Global Majority, who do not bear the same responsibility as those in the Global North for orchestrating the large-scale exploitation of natural resources that has occurred over the last few centuries (Morrison, 2018). In response to the imperfect but thought-provoking notion of the

Anthropocene, scholars have suggested alternative names to bring into focus certain key aspects of our current historical moment and suggest certain origins and possible solutions. Among these alternatives, Jason Moore has suggested "Capitalocene" to emphasize how certain modes of human organization – especially capitalism – have historically caused and continue to cause immense ecological harm since their inception (Moore, 2016).

Whereas Moore's *Capitalocene* tells a grand story of Capitalism causing environmental destruction writ large, Donna Haraway and Anna Tsing focus on the ordinary interactions that cause particular harm in particular places. These scholars build upon Moore's argument while paying close attention to human-nonhuman relations at a local-to-regional scale. Through their concept of the "Plantationocene," Haraway and Tsing bring attention to the intersections of land, labour, economy, and ecology that have crystallized in what has broadly been labeled the *Anthropocene* (Haraway et al., 2016; Haraway & Tsing, 2019). Underlying their sophisticated political-ecological analysis, Haraway and Tsing identify an extractive human-nonhuman relationship as an essential component of the crises we now face.

For Haraway and Tsing, it is not humanity or capitalism in general that has caused the crises we live with today, but rather specific arrangements of human and non-human life, typified by the plantation. In their initial discussion of the *Plantationocene*, Haraway and Tsing describe plantations as radically simplified ecologies in which the plants, animals, organisms and people that constitute them become alienated resources to be used for investment (Haraway et al., 2016, p. 556). The vital activities of humans and nonhumans on plantations are captured by capital; rather than a place where living happens, the plantation is a "system of multispecies forced labor" (Haraway & Tsing, 2019, p. 5). Haraway also characterizes plantations as distinctively exterministic. More so than any other type of agriculture, plantations exhaust the soils, peoples, plants, and animals on which they depend, precipitating their own collapse (Haraway & Tsing, 2019, p. 10).

The historical and present-day proliferation of plantations is closely entwined with the development of global capitalism, as plantations have long been important engines of economic growth, responsible for transferring a vast amount of wealth extracted from coerced land and labour to the gilded coffers of Europe. From the early sugar cane plantations in what is now north-eastern Brazil to the concentrated animal-feeding operations in the Great Plains of what is now Canada and the United States, plantations have been immensely profitable precisely because they are designed to facilitate the extraction of economic value from humans and nonhumans. Through the structured regimentation of vital activities, plantations maximize the efficiency of economic output at the expense of ecological and biocultural stability and resilience. On plantations, pre-existing relationships among humans and nonhumans that are deemed non-productive are disrupted and severed, leaving only the minimum inputs required to produce commodities such as refined sugar and processed beef. In Canada and the United States, for example, the large-scale agricultural operations derived from the legacy of the plantation model have disrupted relations between humans and nonhumans that had endured for countless generations; this was a model of agriculture first made available to European settlers through the forced displacement and cultural genocide of Indigenous peoples. The human-nonhuman relations at the foundation of their societies were disrupted through government programs such as the boarding school and residential school systems and the child welfare system (Gilio-Whitaker, 2019). As plantations have spread throughout the world alongside and as part of extractive capitalism, they have disrupted resilient and diverse more-than-human communities throughout the world – integrated communities of humans and nonhumans – and left brittle ecologies in their wake. It is the self-annihilating logic of the plantation that has shaped the increasingly dominant relationship between humans and nonhumans since the 18th century. It is in their drive to destroy ecological complexity with the goal of maximizing profitability that plantations have precipitated the many environmental crises scholars have bundled under the designation for our time called *Anthropocene*.

Whether we opt to call it the *Anthropocene*, *Capitalocene*, or *Plantationocene*, the larger point of this debate is that we presently live in a moment where the ways in which many of us participate in the more-than-human world has caused tremendous damage to the livability of our world, threatening the continued survival of many more-than-human communities. Facing such a dire situation, it can be tempting to lose ourselves in despair. Yet there is still hope that we can make our world home again. Donna Haraway is critical of the widely circulating narratives of the *Anthropocene*, arguing that they lure us into the trap of ineffectual panic and disengagement (2016, p. 56). Faced with "Too Big stories" of "Progress" and "Modernity" in which Man is granted an outsized role, Haraway (2015, p. 160) urges us to abandon them in favour of stories that are just "big enough" – stories that gather up the complexities of the world while remaining open to surprising new and old connections. By changing the stories we tell, and how we understand our place in the world as humans, Haraway encourages us to take up attentive practices of collective worldmaking in collaboration with our many relations in the more-than-human world that enable our continued ongoingness (2016, p. 40). In these big-enough stories, human beings are not the only important actors; we are with and of the earth, neither above nor below the writhing, wriggling chthonic beings that populate the mysterious and tenebrous underworld that is the soil (Haraway, 2016, p. 55).

Robin Wall Kimmerer makes a similar argument to Haraway's. Echoing Gary Nabhan, Kimmerer insists that we cannot meaningfully proceed to ecological restoration without "re-story-ation" (2013, p. 9). In other words, we first have to come to terms with our relationship to the more-than-human world before we can heal the harms we have caused to it. Restoring land without restoring this relationship is self-defeating, because relationships are what endure and sustain the restored land, and guard against its dereliction in the first place (Kimmerer, 2013, p. 338). Kimmerer also recognizes that we need to change the stories we tell about ourselves about how we relate to the more-than-human world. We have to learn to see the more-than-human world not as a collection of resources to be extracted, but as a web of

relationships that sustain us and give our lives meaning and value. For Kimmerer, love, gratitude, and reciprocity of and for the more-than-human world are all essential parts of the re-story-ation that we need. If we are to create the right path towards a future in which we can thrive, we will all need to gather wisdom from the past to collectively make a worldview shaped by mutual flourishing, in humble, joyful, and loving collaboration with more-than-human beings (2013, p. 371).

Both Kimmerer and Haraway identify the relationships that many of us have with the more-than-human world, and especially the human exceptionalism that underpins them, as the central challenge we now face. They both insist that we refigure what it means to be human through a recognition of our belonging within the more-than-human world. As we recognize our interdependence through these life-sustaining relations, we must also cultivate our "response-ability" (Haraway, 2016) towards them and live in ways that support the well-being of the many beings that make our home so homely. Without annelids and springtails, fungi and pseudoscorpions to decompose the bodies of all formerly living beings, we would inhabit a world suffocating in the mounting debris of lives lived. If we are to maintain a dynamic and adaptable home, we must consciously strengthen our relationships to the rich and vibrant world beyond ourselves, beyond humankind. What would it be like to treat nonhuman beings as relatives or equals deserving of love and respect? This is a pressing question for many of us who have been seduced by the myth of *Anthropos*, of Man as the main player in our story. But for the many Indigenous peoples who have thrived on this earth since time immemorial, human exceptionalism is the historical aberration. The continued thriving of Indigenous Peoples refutes the notion that the *Anthropocene* is universally a human issue. Rather, this time of crisis has arisen through particular social-ecological historical junctures underpinned by the closely related ideologies of extractivism and human exceptionalism. This thesis joins the urgent call to action for scholars and activists who denounce the continued violation of nonhuman beings, of Indigenous peoples, and ultimately of most of humanity. Recognizing the centrality of human exceptionalism to the crises we now inhabit, this thesis investigates how broader currents of human

exceptionalism shape interactions between foragers and plants, and how people conform to or challenge narratives of human exceptionalism through this practice.

Extractivism and human exceptionalism

The global economy has been deeply shaped by its histories of colonialism and slavery. The proliferation of European colonies from the 15th to 20th century established asymmetric economic and political relations between colonial peripheries and metropoles that persist to this day (Gilmartin, 2009). In this relationship, "natural resources" are extracted from current or former colonies and imported by comparatively affluent colonial metropoles (Acosta, 2013). This process of extraction at the center of our global economy is undergirded by an "expansionary and portable extractive logic" that is produced in, and expands beyond, particular sites of extraction (Okoth, 2021, p. 380). This logic has become embedded in our discourse about nonhumans to the extent that they are often already construed as "natural resources" before they even enter discussions (Szeman & Wenzel, 2021, p. 509). This logic, identified by scholars as extractivism, is a significant contributor to the coerced regimentation described by Haraway and Tsing (2019). In order to understand and address the extractivism that has caused untold harm to humans and nonhumans alike over centuries, we must also examine its underpinnings in human exceptionalism.

Human exceptionalism is an ideology that assigns value to beings in the world based on their proximity to God (or Man in secular iterations of this ideology). In addition to enabling the careless exploitation of nonhuman beings, human exceptionalism has been implicated in the oppression of countless peoples. Among nonhumans, those that are defined as being closer to humans – whether in terms of brain size, transmission of culture, etc. – are granted an elevated yet nonetheless subordinate status (TallBear, 2019, p. 63). Conversely, this hierarchy has been used to subjugate groups of people by characterizing them as animalistic or closer to "Nature." When people are denied the elevated status of

human, they fall outside of its protection; they are seen as exploitable and expendable like the rest of the more-than-human world (Chen, 2012; Kim, 2015; Weheliye, 2014). Historically, landed European men have argued that rationality is the defining characteristic that separates man from animal. Even to this day, it is common to hear non-men and non-white people described as innately irrational. By narrowly defining what makes humans unique, human exceptionalism has both deanimated nonhumans and dehumanized certain groups of humans – in both cases justifying systems of domination and oppression.

The human exceptionalist paradigm endures because it has become embedded in Western academic institutions through the work of influential thinkers such as René Descartes and Immanuel Kant, among others (Albrow, 1990, p. 149; Plumwood, 1993). For instance, Descartes worked to present a fundamental division between matter (*res extensa*) and soul (*res cogitans*): whereas matter, to Descartes, was governed by mechanistic laws that determined their functioning in knowable and predictable ways, soul existed outside of the bounds of natural law. Crucially, Descartes believed that aside from God and angels, only human beings were endowed with immortal souls; he often used the analogy of animals and clocks to emphasize their shared mechanistic nature (Fudge, 2006, p. 157). Over the centuries that followed Descartes's writing (1637), this dualistic conceptual framework shaped the development of the sciences and humanities. The former is dedicated to finding universal laws that govern nonhuman action, while the latter is largely devoted to studying and interpreting human thought and language. Even though Cartesian philosophy has faced critique within academia, the human exceptionalism that underpins Descartes' thought persists to this day through more subtle dualisms between mind/body, male/female, subject/object, and culture/nature (Latour, 1993; Plumwood, 1993, p. 120).

Human exceptionalism has advanced a particular view of the world in which it is carved into distinct moieties: "Nature" and "Culture." Some scholars have also noted that certain conceptions of the individual have reproduced this division by representing individuals as disembedded from their relations to each other and to nonhumans. This kind of individualism has been given many names by critics: self-

contained individualism, bounded individualism, or sovereign individualism (Haraway, 2016; Latimer, 2013; Tsing, 2015). Although they may bear different names, each of these concepts denotes a view of a human subject whose agency is reified. Put otherwise, their agency is not understood as coming from somewhere; it simply *is* by virtue of their being human. This view contrasts sharply with a relational understanding of agency, which views an individual's agency as being both enabled and constrained by the material and social relations in which an individual is always bound (Foucault, 1966). Anti-relational individualisms, such as the self-contained individualism identified by Anna Tsing in disciplines spanning from economics to population genetics (2015, p. 28), draw from and reinforce human exceptionalism by representing the individual as a self-contained and self-sufficient agent, elevated beyond their relations to others. From this perspective, these relations do not matter because they do not tangibly affect the individual whose agency supersedes their relations. The individual's decisions – and therefore actions – emerge fully-formed as rational thoughts from a disembodied and disembedded brain.

An important part of reckoning with human exceptionalism in academia is thus to re-embody and re-embed the human person in the more-than-human world and to account for all the ways in which nonhuman entities *matter*. Scholarship in this vein has only recently started to enter into the academic mainstream through critical work in subjects ranging from geography to food studies (e.g. Hui & Walker, 2018; Schiavoni, 2017; Walsh et al., 2021). This expansion in the field of academic inquiry is a welcome change to a dogmatically restrictive tradition. As Andrew Pickering (2008) notes, human exceptionalism has historically confined academic inquiry to what supposedly makes us special as humans (read: Rationality, Self-Consciousness, Language, etc.), at the expense of the more mundane aspects of our being. In elevating the mythic self-contained individual, Western academia has separated the more-than-human world into two discrete categories of matter and analysis: "Nature" and "Culture." Only by moving beyond these analytical categories can we as academics develop the conceptual tools we need to better understand our embeddedness in the more-than-human world. Recognizing ourselves as embedded, we

can challenge the widely naturalized ideologies of extractivism and human exceptionalism that underpin the violent and self-destructive relationship to the nonhuman world that has led to the crisis of ongoingness we now face.

From "Nature" and "Culture" to natureculture

Even in disciplines such as environmental sociology or anthropology, where both "Nature" and "Culture" are areas of study, they are often treated as fundamentally separate rather than an integrated whole. In anthropology, for example, Tim Ingold identifies a widespread tendency to assume that human subjects construct mental representations of the world prior to acting in it (2000, p. 163). From this perspective, individuals' experiences of the world are always culturally mediated. Nonhumans are never seen to exert their own agency because their actions are always part of broader cultural frameworks. In response to this argument, Ingold stresses the need for anthropologists to recognize encounters with the world *in action*. While people certainly have cultural understandings about nonhumans, these often only appear upon reflection (2000, p. 417). This division of "Nature" and "Culture" is illusory at best. As Marilyn Strathern (1991, 1995) maintains, humans can never step outside of our cultural setting, just as we can never disembed ourselves from the more-than-human world. As Sarah Whatmore reminds us, humans do not prefigure our relations: "the human comes into being *with* this world" (Whatmore, 2013, p. 37 original emphasis). Rather than a stable dichotomy, Strathern (1980) characterizes Nature and Culture as a matrix of contrasts that shifts over time and across societies. Continuing to think of them as fundamentally separate diverts our attention from the relationships that interconnect humans and nonhumans, reinforcing instead the mythical figure of the self-contained individual.

My research project uses Haraway's notion of "natureculture" as a springboard from which to imagine human-nonhuman relations beyond the restrictive framework of Nature/Culture. In an attempt to conceptually re-embed the human and bring attention to the mutual interdependence of what is

conventionally understood as “Nature” and “Culture”, Donna Haraway introduced the term “natureculture” (2003). Although Haraway’s “natureculture” was more of a provocation than a fully-fledged framework, it has sparked a good deal of creative thought. Haraway first introduced the term natureculture alongside her concept of companion species. In response to an academic tradition that so often sought to draw firm boundaries between humans and nonhumans, Haraway brought our attention to the ways in which humans and nonhumans become hybrid at times, drawing from her own experience training her dog Cayenne to run agility courses (2003).

Haraway’s notion of human-nonhuman hybridity brings attention to the connections we have with nonhuman kinds, yet as Joanna Latimer remarks, understanding human-nonhuman relations in terms of hybridity subsumes its parts into a whole into which all members disappear (2013, p. 93). Rather than conceptualizing human-nonhuman relations in terms of hybridity, Latimer emphasizes the partial and intermittent quality of human-nonhuman relations through her concept of “being alongside.” To Latimer (2013), as humans participate in the more-than-human world, they form connections with nonhumans that bridge certain divisions while preserving others (see Chapter 4). Although these conversations about human embeddedness are in some ways bringing academic thought closer to Indigenous intellectual traditions, as Kim TallBear notes, even scholarship that aims to disrupt the assumptions of human exceptionalism tends to limit the status of living to things that are more or less organismically defined – for example animals, fungi, or microorganisms (2011). Beyond this narrow scope, TallBear brings our attention to the many Indigenous thinkers like Charles Eastman who have broader conceptions of nonhuman beings worthy of intellectual and ethical attention, including beings that have long been viewed within academia as non-living, such as geological formations, wind, water, and thunder (2011). If we aim to develop scholarship that truly acknowledges human-nonhuman relations among the more-than-human world, it is important that we follow the lead of scholars such as TallBear and Eastman and

include beings that Western scholars have traditionally seen as non-living within our conceptual and theoretical frameworks.

Inasmuch as it is intellectually important to elaborate alternatives to the human exceptionalist paradigm, it is also ethically important. As mentioned above, the ideology of human exceptionalism has served to justify oppressive hierarchies and harmful actions. This has been accomplished by stripping certain beings of their ethical standing, relegating them to the status of bare life (Agamben, 1998). Crucially, beings who are assigned the status of bare life fall outside of the scope of juridical or ethical consideration. Although they may display characteristics of life (e.g., growth, mobility, responsiveness etc.), they are not seen to meaningfully experience living. Giorgio Agamben illustrates the notion of bare life through the case of victims of the Holocaust, yet the status of nonhumans as barely living has been normalized to such an extent in Western thought that it generally passes without notice. Take for example, the widespread practice of raising animals in concentrated animal feeding operations, or CAFOs. The animals raised in this way are often neglected, abused, and confined, and treated as disposable (e.g. K. M. Morin, 2018). Once again, this attitude can be traced back through Descartes – in his writings, he argues that nonhuman animals completely lack interiority. Although Descartes saw animals as capable of sensation and of consciously responding to stimuli, he denied that their actions implied the capacity for thought. Despite sensing the world, Descartes argued that animals lacked the self-consciousness necessary to meaningfully experience it (Cottingham, 1978). In challenging the paradigm of human exceptionalism, we also challenge the basis through which nonhumans – and dehumanized peoples – are cast outside of our scope of ethical consideration and made to be exploitable, expendable, and killable. By bringing nonhumans back into our ethical awareness, we can begin to amend the dysfunctional relationship that underpins our present moment of ecological precarity.

It is therefore in seeking to understand the complexity of human-nonhuman relations that I situate my study within the broad scholarly arena on the influence of human exceptionalism. I turn to

foraging as a specific area of study. There are many peoples who have long traditions of harvesting plants, fungi, and animals as part of daily life. However, in Canada, as in much of the Global North, this tradition has been fragmented among urban peoples. Although some non-Indigenous people continue to harvest uncultivated foods as part of family traditions (Emery, 2002), it has become far less prevalent than it once had been. Recently, there has been a resurgence of people interested in foraging as a way of reconnecting with the more-than-human world. As they do so, they carry with them their experiences growing up with the influence of human exceptionalist narratives. As they begin interacting more directly with nonhumans, they may be shaped by these narratives and/or challenge them in practice. As they learn to navigate this complex terrain, they elaborate practical ethical guidelines – or ethics in practice – to guide their actions. Inspired by Bruno Latour's "Science in Action" (1987), I feel that there is much to be learned by studying multispecies ethics in-the-making, by spending time with foragers as they adapt the views they hold about nonhumans that have been informed by decades of living in a society in which human exceptionalism is widely accepted. Learning from foragers who are navigating this transition can help us better understand how human exceptionalism shapes the interactions between humans and nonhumans and help qualify the limits of this influence. In the next chapter (2), I will provide some context on foraging before elaborating on the methodological implications of a naturalcultural approach to my sociological research.

Chapter 2 – How to study foraging

Foraging in academia

Foraging in its broadest sense refers to the practice of seeking out and harvesting plants or fungi for food, medicine, or crafting purposes from uncultivated environments. All peoples have long histories of gathering wild foods, even if it has since been interrupted. In order for any of us to be alive today, our ancestors must have had the means to meet their needs prior to – and alongside – the development of agriculture (Gallagher et al., 2015; Scott, 2017; Weisdorf, 2005). Although the transition from hunting and foraging to agriculture has generally been regarded within academia as one of unambiguous improvement and total replacement (e.g. Weisdorf, 2005), James C. Scott (2017) brings our attention to the partial and vacillating transitions between these modes of sustenance. Rather than a complete replacement, Scott provides evidence that these two modes of food provisioning have often existed in parallel with periodic shifts back and forth. To this day, even in urban areas, people have continued to harvest plants and fungi, whether for social, cultural, spiritual, or economic reasons (C. M. Hall, 2013; McLain et al., 2014; Poe et al., 2013, 2014). Most existing research on foraging has broached the topic from the perspective of economic development, social analysis, or ethnobotany. Although valuable, this research generally takes humans and nature to be separate matters of analysis. Some ethnobotanical research provides vivid descriptions of complex relationships between humans and nonhumans, but generally does not study ethics "in-the-making." Anna Tsing's work represents an example of naturalcultural research on foraging, serving as an inspiration for this project.

Much of the early research on foraging has been concerned with the potential of "non-wood forest products" (sometimes also called "non-timber forest products") for economic growth. A lot of the research in this vein has been encouraged and coordinated by the United Nations Food and Agriculture Organization (FAO), which adopted a program that sought to develop rural economies through the harvest and sale of forest products (FAO, 1992, 1999). The studies in this tradition often consist of an inventory of

useful forest products, an estimation of their value, an assessment of the sustainability of harvest, and recommendations for their use in economic development (e.g. Hanboonsong et al., 2013; Hernández-Barrios et al., 2015; ILO et al., 2003; Kar, 2010; Sargent, 2007; Tieguhong et al., 2012). This body of literature reinforces the extractivist paradigm, as it assumes that long-standing harvesting practices should be intensified for the purpose of economic development. As such, this research tends to adopt a narrowly economic and resource management approach, paying little attention to the relationships between humans and nonhumans. A more recent body of work emerging from the United States has studied foraging with a wider scope of inquiry, investigating the practice as a significant cultural and social activity.

Rebecca McLain, Marla Emery, and Patrick Hurley are among the most prominent researchers of foraging in the United States, leading the study of its social and environmental dimensions in both urban and rural settings. They have assessed forager demographics and documented which plants and fungi are most commonly harvested, investigated the practice's potential social and ecological benefits, and advocated for equitable access to forested spaces within cities (see esp. Watson et al., 2018; P. T. Hurley & Emery, 2018; Martin, 2018; Poe et al., 2013, 2014; Shackleton et al., 2017). Generally, they have adopted a favourable view of foraging, seeing it as fostering strong connections to place among foragers and encouraging pro-environmental attitudes and behaviours. For example, researchers found that foragers in Seattle were consciously striving for sustainability in their harvesting practices and were modifying the areas in which they foraged in an attempt to improve the accessibility and productivity of desired species (McLain et al., 2017). The practices adopted by foragers in this study ranged from rotating harvesting sites to minimize trampling, to dividing and spreading bulbs. Foragers also taught each other and passers-by these techniques and discussed their harvesting ethics, which were often phrased as a desire to care for the plants and places that provide for them as foragers. Although research in this vein examines how foraging shapes peoples' lives and describes caring relationships between humans and

nonhumans, it tends to take these relationships as a given, rather than interrogating how they are formed through practice. While this research is certainly valuable, it does not address how foragers and nonhumans jointly develop codes of ethical conduct with and against the influence of human exceptionalism.

A third body of research on foraging comes from the field of ethnobotany. This research is focused on how Indigenous peoples traditionally use plants and tends to fall within 3 categories. First, ethnobotanical research can be conducted with the purpose of "discovering" plants with medicinal properties which can be appropriated by pharmaceutical companies to develop highly profitable drugs, what is known as "bioprospecting" or "biopiracy" (c.f. Laveaga, 2009; Shiva, 2007). Second, this research can be oriented towards conservation. By documenting how Indigenous peoples are using plants, scientists and non-governmental organizations (NGOs) sometimes create inventories of useful plants in a region which can serve as a measure of biodiversity or biocultural diversity. Sometimes these well-meaning researchers and NGOs then assume the responsibility of managing this diversity, potentially restricting the personal agency and political autonomy of the Indigenous peoples with whom they are supposedly collaborating (e.g. Barbour & Schlesinger, 2012; Crowe & Shryer, 1995; Ross, 2017). Third, ethnobotanical research can be conducted by Indigenous community-members themselves, or by researchers on behalf of a community, with the purpose of documenting plant uses for the education of future generations (Black Elk & Baker, 2020; Geniusz et al., 2015; Turner, 2014). This body of work is very useful in terms of appreciating the diversity and depth of human-nonhuman relations throughout the world, but it generally focuses on people who already have very strongly established relationships with the more-than-human world. In studying amateur urban foragers in Canada, in this project I examined how people who grew up in a society in which human exceptionalism is deeply embedded and widely normalized adapted their understandings of nonhumans while developing ethical relationships with them.

My project is most closely aligned with the work of Anna Tsing whose research stands out among other research on foraging because of her unique approach to studying foraging from a naturalcultural perspective. As a multispecies ethnography, *The Mushroom at the End of the World* (2015) examines how matsutake (*Tricholoma matsutake*) participate in diverse human and nonhuman communities. From the Japanese nature-lovers who are restoring rural landscapes through a return to traditional practices to the mushroom pickers on the Pacific coast of the northern United States who participate at the fringes of the formal economy, matsutake worlds erupt from unexpected places, bringing together unlikely collaborators in globe-spanning entanglements. Tsing's work serves as an inspiration for the naturalcultural study of foraging, yet Tsing's research is not solely about foraging. More broadly, it examines how matsutake are entangled in naturalcultural landscapes across the world. My thesis thus has a narrower scope than Tsing's research, but nonetheless shares her goal of providing a glimpse into complex more-than-human worlds that trouble the dichotomy of "Nature" and "Culture" and challenge the notion that nonhuman relations are centered around humans.

Methodological considerations

Foraging is a broad term that encompasses a diversity of motivations and practices. It is therefore important to sketch out exactly what kind of foraging this thesis pertains to. Following a brief overview of foraging in general, I interrogate the distinctions between the harvest of food, medicine, and crafting materials; of reproductive and vegetative structures; of mushrooms and plants; and between Indigenous and non-Indigenous foraging. In each of these cases, I draw attention to the methodological implications of making or foregoing such distinctions.

Foraging has historically been associated with "wild" or non-cultivated foods, yet the parallel development of agriculture has resulted in feral populations of domesticated plants such as apples and parsnips. Although domesticated and non-domesticated plants have different histories with humans, both now grow in similar places, along the peripheries of human habitation. Because of their similar growing

conditions, I will not be making a distinction between wild and feral plants in this thesis. Similarly, people gather not only food, but also medicines and crafting materials (fiber, dye, pigment, etc.). Although there may be differences in how people harvest each item, I will not distinguish between these types of harvesting here. When considering natural medicines (e.g., whole plant structures or extracts), the boundary between food and medicine is rather fuzzy. Whereas primarily medicinal plants or fungi often also have nutritional value, many foods that are regularly consumed also have medicinal qualities (Geniusz et al., 2015). Even when plants are harvested for consumption, the relationship between plant and forager is one of exchange. Regardless of how the plant will be used, the forager receives their life, or at least a part of it. The most significant distinction, for our purposes of investigating human-nature relations, is therefore between the harvest of vegetative compared to reproductive structures.

Plants and fungi make reproductive structures such as fruits, berries, or mushrooms in order to disperse their offspring. Often, this dispersal happens as birds, mammals, or other animals eat, travel, and excrete the fruits – and seeds – of the plant. Because reproductive structures are meant to be taken from the plant, their loss does not adversely impact their health; indeed, it can benefit them by establishing populations farther away from the parent plant and thus in potentially more hospitable locations. In contrast, harvesting vegetative structures such as stems, leaves, roots, and tubers can cause significant damage to the plant, at times even death. Because of the possible harm involved, there is more weight in the decision to harvest a plant's vegetative structures. To make an analogy to the human body, the difference between harvesting vegetative versus non-vegetative structures can be likened to the difference between cutting off someone's hair or their arm. For this reason, my focus is on foragers who harvest vegetative (or vegetative and non-vegetative) plant structures, as I expected them to think more explicitly about the ethics of their harvesting practices. Although many foragers harvest mushrooms, the distinction between vegetative and non-vegetative structures also led me to omit them from my study. Fungi tend to spread their spores by wind or rain rather than animal dispersal, but mushrooms are

nonetheless non-vegetative structures. It is the mycelium, which usually grows beneath the soil, that can be adversely impacted by harvesting. A few of the foragers I spent time with primarily harvested mushrooms and none of them harvested mycelium, so they do not figure prominently in my analysis. Unfortunately, since I did not consider this distinction until after recruitment, I was unable to selectively recruit foragers who harvest mostly plants.

I conducted my research in the Ottawa/Gatineau region, on the unceded and occupied lands of the Algonquin Anishinaabe. None of the foragers who participated in this research project identified as Algonquin, First Nations, or Indigenous. This is to say, although relationships to land are at the foundation of social, cultural, political, economic, and spiritual life for many Indigenous peoples (Simpson, 2011; Wildcat et al., 2014), Indigenous peoples are not represented as participants in this study. In large part, this is because I am not well positioned as a non-Indigenous researcher to appropriately contextualize their practice, much less in such a short research project. Indigenous peoples have very important perspectives on ethical human-nonhuman relations, and many are generously sharing their teachings. Rather than speaking for them as research participants, it is important that we make space for them to enter these conversations on their own terms. Although I have made the decision to not include them as participants, their voices are ever present throughout this thesis – several of the participants from this study and I have been informed by the public teachings of Indigenous people, including Robin Wall Kimmerer, Caleb Musgrave, Linda Black Elk, and Kim TallBear.

Naturalcultural methodologies

Due to the prevalence of human exceptionalism in academia, mainstream methodologies are prone to replicating its dichotomies in research. To this end, I have adopted multispecies ethnography as my primary methodology. Multispecies ethnography as a methodological movement emerged in the context of a widening rift between physical and cultural anthropology departments in the 2000s. In an increasingly polarized institutional environment, some anthropologists sought to explore the conceptual

space that fell between these two mainstream academic currents (Kirksey & Helmreich, 2010). This resulted in a body of work that fused anthropology and animal studies, nature writing and science and technology studies. Multispecies ethnographies often emphasize connections and relations, continuity and disruption, crystallization and fluidity. In their shared commitment to challenging assumptions about "Nature" and "Culture," multispecies ethnographers often ground their research in the study of affect and materiality. As well, in their efforts to even out an ontological terrain that has otherwise systemically privileged human beings over others, multispecies ethnographers undergird their methodologies in a pluralistic view of ontology. According to this view, the more-than-human world is constituted of distinctive and partly overlapping lifeworlds (see Chapter 4). These lifeworlds are the meaningful networks of social and ecological relationships that constitute the world as experienced by living beings. Every being has a perspective shaped by their perceptual abilities, ancestral histories, and relations that come to bear on how they experience and interact with the world. These disparate lifeworlds may partially overlap, but they are ultimately grounded in a common materiality (see, for example Chao, 2018).

In its commitment to rethinking assumptions about Nature/Culture, multispecies ethnography lends considerable attention to affect. This concept emphasizes the significance of non-conscious feeling in our experience of the world. As opposed to conscious or unconscious thought, which are both assumed to be localized within the rational mind (Descartes' pineal gland of modernity), non-conscious thought is fundamentally in and of the body (Massumi, 2002). This is perhaps best exemplified through reflexes, autonomic movement, and instinct. Non-conscious thoughts and perceptions shape our experience of the world without ever being consciously registered in the mind. For example, encountering an unsettling event might provoke an autonomic response that we viscerally feel in our guts. Our awareness is not of the event itself, which has already provoked a physical response, but rather of our body's response to the event. This example demonstrates the merit of affect theory in how it encourages a view of cognition as a whole-body process. Some theorists have taken this further, characterizing mind as dispersed across

what might be commonly understood to be different actors: for example tree-eyes-brain-muscles-axe-stroke-tree system in Gregory Bateson's celebrated example (1972). Whether cognition is understood as being dispersed within a single body or across several, the notion of embodied cognition advanced alongside affect theory provides a conceptual bridge between human and nonhuman realities through a "materialities" framework.

Materialities is an ambiguous term. It can be read in at least two ways: as the plural form of materiality or as a fusion of "material" and "realities." This semantic ambiguity enhances the evocative power of the word, as it elicits connections between physicality and shared experiences. Although living beings each perceive and act within the world differently, their actions connect with others through their shared materiality. A rabbit's droppings may smell disgusting to some creatures or appetizing to others; these varied experiences are all grounded in the actual presence of the droppings in a common physical world. Likewise, the plant that a forager harvests can be perceived differently by various beings, but nevertheless remains in and of the world. Any changes to the plant caused by the forager go on to affect how others interact with it. A framework such as this that draws from the "new materialist" movement (see van der Tuin & Dolphijn, 2010 for an overview; Braidotti, 2002; De Landa, 2006; Fox & Alldred, 2017) is therefore aligned with the art of tracking, as it is highly concerned with the physical changes that ensue from encounter. A materialities framework provides an anchoring for the pluralistic ontologies that often characterize multispecies ethnographies.

Diverse as existing multispecies ethnographies may be, many adopt a pluralistic view of ontology, as exemplified by concepts such as Eduardo Viveiros de Castro's "perspectival multinaturalism" (1998) and Sophie Chao's "dispersed ontologies" (2018). In simple terms, this view supposes that living beings inhabit partly overlapping ontologies within a common physical world. This topic will be expanded upon further in Chapter 4 through an elaboration of the concept of lifeworlds. This pluralistic view is central to multispecies ethnography, as it allows us to account for perspectival differences while maintaining the

physical traces that bridge ontological worlds. Methodologically, this is manifest in a preoccupation with contact zones (Haraway, 2008) – paying attention to sites of encounter between beings. Ephemeral though these contact zones may be, they leave traces in their passing, either in the form of contamination (Tsing, 2015) or impressions (Chapter 4). Given that nonhumans do not live entirely within our human ontological realm, it is necessary to gather up traces of their passing through common worlds and reassemble an account of their presence, analogous to the art of tracking. Crucially, nonhumans do not only contaminate and leave impressions on nonhumans or an inanimate world – they also contaminate and impress upon humans. Multispecies ethnographies therefore employ a combination of conversations, interviews, field observations, and natural history.

This multispecies ethnographic project involved a comparative study of six foragers who each harvest plants for food or medicine. I conducted the study primarily using unstructured field interviews and conversations. As opposed to structured or semi-structured interviews, unstructured interviews provided participants with opportunities to direct conversations towards the topics that matter most to them. The conversational nature of unstructured interviews also enabled me to ask follow-up questions, providing further clarification of their answers. Moreover, being on-site with participants allowed me to ask contextual questions and directly observe their interactions with nonhumans. Stories and accounts of plants and other nonhumans shared by foragers were supplemented by additional research in botanical and ecological literatures, as well as direct experience with plants. While tracking is conceptually aligned with this research methodology, I did not have expertise in this area prior to conducting fieldwork. Indeed, my first degree was in chemistry, not plant science. Yet learning the basics of tracking, ecology, and botany were all important parts of this research, though they occurred after the original field visits. Therefore, rather than tracking nonhumans while conducting interviews, I visited certain species of plants regularly over several months following field work, at times harvesting these plants myself. Through this process, I learned a great deal about those nonhuman lifeworlds that inform the thesis.

Participants for this study were recruited primarily through a combination of snowball sampling and consecutive sampling. A digital flyer was distributed among Facebook groups related to foraging and news about this research was circulated among personal social networks. 3 participants were recruited via advertisement, 2 via social networks, and 2 more were referred by participants. One participant dropped out before we could arrange an interview. All participants were at least 18 years old, had at least 3 years of experience foraging, were fluent in English, and lived in the Ottawa/Gatineau region. Of the foragers that were interviewed for this research, 4 identified as women and 2 identified as men. Each forager that participated in this study is a dynamic and vibrant person.

Birdie[*]

Birdie is a recent mother in her early 40s who had grown up in a religious Christian family in a rural area outside of Ottawa. She started foraging for economic and recreational purposes as an adult. Today, she finds a sense of spiritual fulfilment through foraging around her suburban neighborhood and is seeking out ways to deepen this sense of connection. During the interview period, she was participating in an online course on "practical animism."

Isa

Isa is a mother in her early-to-mid 40s. She has harvested wild food from a young age but has been devoting more time and attention to foraging over the last few years. For Isa, foraging is a way to supplement her diet with fresh and local food. Most of her large harvests are from urban fruit trees with whose owners she has come to an agreement. Foraging is a very social activity for Isa, and she is very active in online and in-person foraging groups. Isa considers foraging important not only for the food it provides, but for the chance to learn more about plants and mushrooms and to spend time in the forest

[*] The names of some participants have been changed to preserve their anonymity.

harvesting them. She runs a nature-oriented daycare with her partner and teaches (and is taught by) many young children about the joy of being outside.

Simon

Simon is a man in his late 50s who has been foraging since before he was 10 years old. When he was young, his grandfather taught him a lot about foraging, bushcraft, and fishing. Although he does not identify as Indigenous, he told me that his grandfather was half-Wendat. In the years that he has been foraging, he has learned a great deal through experience and in some cases with help from the internet. He has an astonishing depth and breadth of knowledge about plants and mushrooms and their uses, as well as animals and ecology. He is very generous with his knowledge and helps less experienced foragers around the city. I met him in this context when he was offering help to Isa. He does not figure prominently in this thesis due to scheduling conflicts.

Steph

Steph is a mother in her 40s who has been foraging since she was young. Growing up, her father was in the military, so their family moved around a lot. She often went out into the woods to spend time and gather berries. She lived in Ottawa for a while, but 20 years ago decided to buy a forested property in a rural area outside of the city with her husband. She hasn't always had time to spend in the woods, but in the last 6 or 7 years, she has gone for walks in the woods on a near-daily basis. She harvests apples and grapes from the roadsides in her rural neighborhood and has recently started learning much more about mushrooms and harvesting them. She does not figure prominently in this thesis because she mostly harvests the reproductive structures of plants and fungi.

Amber

Amber is a woman in her 40s who has been gardening and wildcrafting for 7 years. Although she uses wildcrafting and foraging interchangeably at times, she sees foraging as focused primarily on food, whereas wildcrafting tends to encompass harvesting uncultivated plants for medicinal and crafting purposes. She has come to foraging through herbalism and has been trying to reconnect to the herbalist traditions of her ancestors. The question of how to decolonize herbalism is front of mind for Amber, and she is committed to opening up difficult conversations among her herbalist peers. Since she first began wildcrafting, she has become deeply shaped by her relationships with plants, often joking that she has been "abducted by the plants." For Amber, foraging (or wildcrafting) is an ethically loaded activity that affects the well-being of nonhumans and habitats. She has learned a great deal about the history of the land she harvests from and the plants she harvests and is always looking to learn more.

Pavel

Pavel is a grandfather in his early-to-mid 70s who immigrated to Canada from Eastern Europe in the late 1970s. He learned to forage for mushrooms at a young age out of necessity in a country ravaged by the Second World War. Foraging has always been a practical matter for Pavel, a question of finding valuable mushrooms to prepare for his family and friends. He is highly educated and passionate about geopolitics, to such an extent that conversations about foraging will often spin off into his thoughts about the downfall of the Roman Empire. He does not feature prominently in this thesis because he almost exclusively harvests mushrooms, the fruiting bodies of fungi.

At the start of this research project, the COVID-19 virus spread rapidly throughout the world, attaining the status of global pandemic. Due to the pandemic, the foragers and myself had to maintain 2m distance. This also contributed to considerable hesitancy towards spending time together, which ultimately limited the number and duration of field visits. Furthermore, with travel restrictions, I was unable to travel beyond the Ottawa/Gatineau region to conduct interviews. Nevertheless, Ottawa is a

good research site, as it is a major metropolitan area that incorporates a significant number of forested areas. The participants in this research therefore did not entirely subsist from foraged foods, but instead spent their spare time harvesting plants when possible. Although COVID-19 did not make it impossible to conduct this research, it did precipitate major changes. Due to this pandemic, the amount of time spent with participants was significantly reduced and the amount of time spent alone learning from plants and other nonhumans was proportionately greater.

Chapter 3 – Notes from the field

Foraging is an activity that brings people into direct and frequent contact with plants and other nonhumans. Having joined recreational foragers in the Ottawa/Gatineau region on their harvests, I got to see how they approached the process of deciding how best to forage. Given that most of the foragers I spent time with began considering foraging more seriously in adulthood, they were in the process of figuring out what good foraging looks like. For some, this meant harvesting as much high-quality food or medicine as possible, while for others, this meant limiting their impact on the plants and ecology in which they were participants. For those who considered foraging in explicitly ethical terms, I was able to learn about how they form ethical relationships with nonhumans in the time I spent with them. As outlined in the opening chapter of this thesis, the question of how humans engage in ethical relationships with nonhumans is one of great importance in our present moment, given the many crises of ongoingness we currently face.

A few key themes emerged through this research, as part of the strategies foragers used to understand their relationships towards plants and how they could make these relationships more ethical. This begins with recognition, or noticing. Many people within Canada and the United States grow up without knowing the plants around them. Before all else, it is important that foragers learn to recognize plants. Importantly, this involves *paying attention*. Foragers are attentive to the details of plants and habitats, and often notice features of plants that would go unnoticed by most laypeople. In this regard, they learn a dialect of botanical language to describe plant anatomy. They often learn their common and/or scientific names, although they can recognize several plants without knowing their widely accepted names.

Beyond simple recognition, foragers learned about the complex interactions that plants have with each other and with other nonhumans. For some, this ecological view allows a recognition of the alterity

and interdependences of nonhumans. They recognize that well-being for one plant cannot be disconnected from the other nonhumans that participate in their lives. However, there is also a recognition that the needs of plants are radically different from our own as humans. Therefore, the process of assessing care and harm for nonhumans is one of imaginative empathy, where the forager imagines themselves outside of their own human life, imagining how nonhumans live with each other.

Humility also plays a significant role in some foragers' practices. Importantly, intuition can have a grounded basis, in the embodied responses to one's environment. Some foragers listen to subtle changes in their bodies as they prepare to harvest, trusting a "feeling" that it is not the right time to harvest. As well, this practice gives the plants a say. Recognizing the incompleteness of their assessments (aware of their situatedness as humans, knowing that they can't have the full picture), they remain sensitive to any indication, no matter how cryptic, that they should not be harvesting.

Harvesting ethically

> *I recognize that when I come into a space and I'm removing plants, or I'm putting plants in, that I'm having an impact. And I don't ultimately know what that impact is going to be, unless I have a consistent relationship with that land, and I come back year after year and observe. But even then, it's going to take so many years to understand, what does it mean for me to come in here and harvest the raspberry, and harvest the nettle. What does that mean for the diversity of this space? The animals, the insects, the birds that use this as habitat? But I do feel like... Okay, so let's assume that more native plants is healthier for the ecosystem, so if I'm removing [non-native] plants, maybe I can play a little bit of a role in bringing things back into balance? – Amber*

On this planet, no life is lived in isolation from others. We are bound to one another on a very basic level through the circulation of matter and energy that constitutes life. With every breath we take as humans, we absorb oxygen from the atmosphere and emit carbon dioxide. Through an act as mundane as breathing, our lives are entangled with all the photosynthesizing and non-photosynthesizing organisms nearby, and, ultimately, over great distances. Beyond air, we also need clean water and nutritious food to live. As non-photosynthesizing organisms, we are incapable of capturing energy from the sun and must

therefore eat – and kill – other living beings to survive. Faced with this reality, we are left to decide how best to fulfill our needs while avoiding causing undue harm to others. It is in this sense that every facet of how we live is a question of ethics, from how we treat other human beings to how we procure our lunch.

As the above quotation illustrates, those foragers with whom I spent time often think explicitly about these ethical tensions. Foragers usually cannot afford to ignore the ethical implications of how they act in relation to land; After all, causing harm to nonhuman communities hinders the ability for foragers to keep harvesting food or medicine from this location in the future. This quotation also points out that the consequences of foraging cannot be understood in the absence of a long-term attentive relationship with land. This attentive relationship generally involves viewing the world ecologically; in other words, paying attention to the relationships between humans, animals, plants, fungi, soil, and water (among others). Among the foragers I observed, I saw that in the absence of such relationship-building, there was a potential for foraging to fall under the dominant extractivist paradigm that has guided and continues to guide human-nonhuman relations over the course of the development of the global capitalist economy (see Chapter 1).

Through the time I spent with foragers, I found that those who view foraging as an ethically significant issue approached the practice as an opportunity to build and deepen relationships with nonhumans. In the process of relationship-building, these foragers tended to follow four main steps. First, they pay attention to the plants around them, learning to recognize them as dynamic, living beings. In doing so, they learn to extend the scope of their ethical considerations beyond only the human and/or mammalian world. Second, they deepen these relationships by learning from and about these plants, paying attention to the relations between them and other plants, animals, and fungi. As they do so, foragers gain an understanding of the interdependence of nonhumans. They recognize themselves as being at the periphery rather than the center of other lives. This humility allows these foragers to consider themselves and their interests as only a relatively small part of the community of autonomous entities

that makes up the habitat in which they gather food and medicine. Third, building upon this humility, foragers leave room for uncertainty by learning to listen to their intuitions. Lastly, these foragers intervene in nonhuman lifeworlds, whether through harvesting, weeding, sowing, or storytelling thereby shaping them. Although this process has been laid out here as a sequence of "steps," it is important to note that they usually happen out of this order and simultaneously. Foragers often learn about the complex relationships between nonhuman beings by directly engaging with them in harvest. This outline is a necessary simplification of a messy and complicated process.

Extractive foraging and relationship-building

Based on my time in the field, I came to recognize two distinct modes of foraging which I have tentatively called extractive and non-extractive foraging. While I witnessed some foragers who work hard to build ethical relationships with nonhumans, there are many who operate without concern for the interests of nonhumans. As discussed in Chapter 1, many of the ecological problems we now face have their roots in human exceptionalism, a pervasive tradition in Western thought according to which nonhuman beings are deanimated and objectified. The refusal of nonhuman subjectivity that characterizes human exceptionalism enables an extractive mentality whereby humans are entitled to take whatever so-called "natural resources" they can find. From an extractive perspective, there is no limit to what can be taken, and no obligation to return the favour.

What I call "extractive foraging" refers to foraging practices that can be understood as stemming from an extractive perspective. This does not mean that foragers who engage in such practices necessarily adopt such a perspective, but that their actions belong to this loosely defined category. In general, this implies an internal focus on a forager's wants, rather than considering their consequences on nonhumans. In some cases, the forager might simply not recognize nonhuman subjectivity, while in other cases, they might value their own desires above any consideration they may have for nonhumans. This means that

foragers who adopt extractive practices may see nonhuman beings as inert objects completely unworthy of ethical consideration, like a pencil or a shirt. Alternatively, some extractive foragers may recognize nonhumans as living beings, but not incorporate this into their practice, which remains self-centered. Three of the foragers I spent time with generally adopted extractive practices, either because they disregarded nonhumans or because they tended to put their own interests first. For example, Pavel found it very difficult to speak about mushrooms or plants with me, possibly because he did not consider it a topic befitting sociological research. For the most part, he told me about his personal history, and of his fascinations with geopolitics. When he did talk about mushrooms, it was in instrumental terms, for example referring to the royal boletus (*Butyriboletus regius*) as "the best of the best… the Rolls-Royce of mushrooms." In another case, Steph expressed her appreciation for mushrooms, both as beautiful "little gems out in the middle of all this woods" and as important participants in the ecology of the planet. She even described mushrooms as "the dark matter of everything," referring to how they hold all of life together but are often overlooked. However, her appreciation was limited to mushrooms either as curiosities, or as food. Steph never spoke about mushrooms (or plants, for that matter) as social beings. Birdie, on the other hand, often talks about plants as active and living beings, but nevertheless puts her interests above theirs. The topic of extractive foraging deserves to be studied in much greater depth, but it was unfortunately not a main focus of this research project. Further research will be needed in order to more fully characterize this practice which I preliminarily sketched out.

Amber and Isa are the two foragers I spoke with who most intentionally try to avoid foraging with an extractive mentality. They both engage with foraging on explicitly ethical terms. It is important to note that they both have been inspired by Indigenous authors, public teachers, and friends. In particular, both foragers cited *Braiding Sweetgrass* (2013) by Robin Wall Kimmerer as an especially impactful book. Neither of them directly follows Indigenous practices and protocols (e.g., leaving semaa, or tobacco, as an offering) out of a concern that this might verge on cultural appropriation, but they have both drawn

general lessons from these teachers. They each told me that they learned about the importance of building relationships with nonhuman beings and places, and that they try to enact these lessons in the ways they practice foraging. They both strive to practice foraging with respect and reciprocity, giving back something in return for the plant's gifts, and sometimes life. Isa always brings an extra bag when she goes foraging to pick up garbage in the areas where she harvests plants and elsewhere. Amber provides space in her garden for native plants to grow, and they both teach others about the importance of respecting nonhuman beings. An important feature of their non-extractive practices is the attention they pay to plants, animals, and fungi that are not immediately useful to them. Because they intentionally try to form relationships with nonhumans in the places they inhabit, visit, and harvest from, Amber and Isa make decisions with the goal of enhancing the health and well-being of the habitat as a whole.

From my encounters with foragers, it seems that it is not a coincidence that those who are making a conscious effort to avoid an extractive mentality are those who are learning from Indigenous people and actively interrogating their position as white settlers, although more research is needed to gain a better understanding of how this dynamic plays out among foragers. In the pages that follow, I will be focusing on the process by which foragers develop ethical relationships with nonhumans, and how they try to forage in ways that respect these ethics.

Paying attention: noticing and recognizing

Birdie and I were walking on a trail through a forested area in her neighborhood as she periodically dipped off the trail to see if she could find a patch of jewelweed (*Impatiens capensis*) from which to harvest to make a salve. As our conversation turned to the breadth of her knowledge about plants, she reflected on how much she's learned over the past few years that she's been foraging:

> *A few years ago, if I was walking through here, it would have been a wall of green. And then it became like, ah! Trees and shrubs. And then, trees and shrubs and grasses and ferns, and... plants, and whatever. It feels like every year the focus is shifting.*

The experience Birdie describes is a familiar one for many people. Many people who grow up in countries of the Global North are not encouraged to pay attention to the plants or fungi around them, to such an extent that the term “plant blindness” has been coined to describe this phenomenon (Wandersee & Schussler, 1999). By learning about plants and spending time directly engaging with them, Birdie was able to gradually overcome her plant blindness. Year after year, she learned to differentiate various types of plants and see the diversity of plant life around her. Birdie learned to identify many plants and learned about their properties through blogs, books, and videos devoted to foraging. Although she’s learned to identify a good number of plants, Birdie’s knowledge of plants is generally limited to identifying them and describing their common uses. She told me that she knows stuff about a lot of plants, meaning their culinary and medicinal uses, even those plants she doesn’t use herself, but she can’t recognize many plants that doesn’t have a culinary or medicinal use. When she starts to learn about a new plant, she approaches them first and foremost in terms of how they might be useful to her, inferring their properties through their taxonomic relationships. This is how she describes a plant she had started noticing just before I spoke with her:

> *I don't know even if it does anything. It's Galium mollugo, I think? It's a bedstraw. It's related to cleavers, but it's not cleavers, so I'm not sure if you can use the seeds for coffee. That would be nice...*

Once she learns to identify a plant and their uses, Birdie moves on to the next one. There are a few plants that she is more familiar with because she regularly uses them, but in general she does not spend very long with any given plant. As she explained it to me, “different plants have different years for me.”

In contrast to Birdie’s quick and broad approach to learning about plants, Isa takes longer to form more intimate relationships with the plants that are part of her life. Although she starts out by identifying unfamiliar plants, she doesn’t feel like she knows a plant until she can *recognize* them. She compares getting to know plants in this way to recognizing an old friend.

> *[O]nce I start to get to know a plant better, it starts to feel like a friend that... You know, when you know a person really well and you can recognize them from a hundred yards away just from behind by the way that they're standing or the way that they're walking, I kind of... To me when I know a plant, it's sort of like that. I mean, if I can recognize a plant when I'm driving by at 50km/h in a car from like a road, just from the shape and the colour and the form of the branches, or the texture of the foliage, then it's like "Oh, I feel like I'm starting to know this plant!"*

The divergence between Birdie and Isa's approaches speaks to the difference between recognition and identification. While both methods can help you know which plants are around you, they function quite differently in practice. Identification is based on the observation of key identifying features. When identifying a plant, a forager will closely examine the shape and arrangement of leaves, flowers, flower parts, and fruits, among others. This is a very intentional activity that requires a reference guide and dedicated focus. Alternately, some foragers can recognize plants without needing to closely examine them, as they would when identifying them. Rather than anatomical features, they recognize them based on their size range, their growth form, their colours and textures, their preferred habitats, and even elements that are never written into plant guidebooks such as how they move with the breeze. Altogether, these less identifiable features form an overall impression of how the plant looks across many varied circumstances. As well, recognition can involve all the senses, as foragers notice the distinctive sounds, smells, textures, and tastes associated with particular plants. Identification – which relies primarily on sight – is far more perceptually limited. For example, Isa expressed her admiration for Coltsfoot (*Tussilago farfara*) not only in terms of how they look, but also how they feel:

> *I really love the feel of Coltsfoot. It's got such an amazing feel. It's so soft feeling to me, like the leaves just feel so soft. […] silky, velvety, leathery… yeah. And I love that burgundy [veining]. […] They're so beautiful.*

Involving all of their senses in interactions with plants allows foragers to form much stronger emotional connections than the detached and methodical observation of anatomical structure. For its role in strengthening emotional attachments, recognition is an important part of building meaningful ethical relationships with plants.

Although identification and recognition are quite different skills, they are closely related; for many foragers, identification is the first step towards recognition. When most of the foragers I met encountered a new or not-yet-familiar plant, they looked closely for key identifying features while referencing a field guide. Amber was among those who did this, but she also learned a method of recognizing plants without necessarily knowing their botanical name called "mind's eye journaling." This method involves closely observing the plant before drawing them from memory. She told me that this activity works very well because of the detailed observation and memorization involved. While observing the plant, she is looking for key features, but because she has to draw the plant from memory, she also needs to pay attention to how the parts of the plant come together as a whole. This is one of the key differences between identification and recognition: whereas identification is a way of seeing that breaks the plant into distinguishable parts and anatomical structures, recognition involves observing the plant *as a whole*. Most foragers I spent time with, even Amber, told me that they usually learn to recognize plants through practice after first identifying them. The foragers who harvest plants all told me that they practice their identification and/or recognition skills whenever they go for a walk, even when they are not planning on harvesting anything. At first, they may closely examine a plant they think they know and re-identify it, but with practice they start to positively recognize certain plants at a glance. Foragers gradually become more familiar with plants by spending time with them in various contexts until recognizing plants becomes as effortless and comforting as recognizing an old friend.

Identification and recognition are similar but distinct skills. As explained above, recognition differs from identification in that it involves all the senses observing the plant as a whole, and it engenders a much closer emotional connection. Beyond these distinctions, the two skills are related in that identification often develops into recognition with time and practice. However, this is not to say that identification *always* develops into recognition, nor that identification is a prerequisite to recognizing and becoming familiar with plants. If a forager is only aware of a plant when it's in the correct stage to harvest,

they may only recognize the plant in this narrow setting, while still being unable to recognize them out of season, or as a whole being beyond its use value. The foragers who I met for this study all identify plants before they harvest them, but Amber's account of "mind's eye journaling" suggests that identification is not the only path towards recognition. Indeed, although knowing a plant's common or scientific name is helpful when speaking with others or looking for more information about a plant, it is not strictly required in order to build a relationship directly with that plant. For example, Birdie became attached to a tree she regularly saw despite not being able to identify it. She thought of it as distinctive based on where and how it grew, and was very upset when it was removed by the city:

> *[T]here was a tree, a big old - I don't even know what kind of tree it was. It was a little dead, dying I guess - but there was a big dryad's saddle that would sprout up on it sometimes, and so we just called it Emma's tree, because it was Emma's house that it lived in front of. And then one day, I come home, and they're friggin cutting it down and woodchipping it.*

Ultimately, spending time paying attention to plants is the best way to recognize them, and identification is a common method used to do so. However, it is not strictly necessary, as recognition can be learned even in the absence of a positive identification.

For the foragers I got to know, botanical language is a helpful tool in the process of paying close attention to plants. They may not be fluent in the minutiae of this language, but they speak a dialect of it in which they blend botanical terminology and common terms. For example, Isa describes Bur Oak (*Quercus macrocarpa*) as having lobed leaves and fuzzy acorn caps, whereas the accepted botanical terminology would be "fringed cups." In another instance, Birdie uses the term "seed head" when cross-checking a plant she found with a reference guide. Often, the botanical terms that foragers learn to use come from the field guides they use for identification. This terminology is helpful for foragers, as it draws attention to particular features of a plant that might otherwise go unnoticed. Another way that foragers use botanical language is to recognize similarities between plants in the same botanical family. This can

provide a starting point when identifying an unfamiliar plant or trying to discern their properties. For example, in one instance Birdie tries to narrow her identification of a plant on the basis that it belongs to the aster family. In another case, she infers that a plant belonging to the same genus as Cleavers (*Galium aparine*) might have similar uses as food. Isa similarly uses taxonomic relationships to look for mushrooms in the bolete family to learn about, as there are fewer poisonous boletes than gilled mushrooms.

At the start of this section, I made a contrast between Birdie and Isa's approaches to getting to know plants. Although they are quite different, they are not mutually exclusive. In fact, there are a few plants with which Birdie has started to form deeper relationships. She describes getting to know a local apple tree over the course of a year in a way that is very reminiscent of Isa.

> *We've been on apple blossom time since the pandemic started, it's been so wonderful. […], so we were watching closely as the buds started to show up, and like, I learned how [...] the buds, and the little blossoms, and the little apples that appear, and it's just magic! It's magic, right? And so, I don't know, I feel pretty friggin close to all the plants and trees and everybody on my route here. That tree for sure.*

Forming deeper relationships with nonhumans is a process that takes time and commitment, not unlike nurturing a friendship with another human. Frequent encounters help build deeper relationships, but they are not sufficient in and of themselves. Foragers told me that with every encounter, no matter the circumstances, it is important to pay close attention. Here, Birdie is getting to know apple trees, and other "plants and trees" in general by closely watching this apple tree she walks by every day and noticing similarities when she passes by other plants and trees. By following this tree over the course of a year she is able to notice the growth and liveliness of the tree that is not visible in disparate snapshots. Like Birdie is doing here, the best way to start building relationships with nonhumans is to pay attention to one or a small number over a period of time, noticing the subtle and less-subtle changes they go through as the seasons change.

An unexpected outcome of learning to identify, recognize, and deepen relationships with nonhumans is that they begin to emerge as beings worthy of what we might call *ethical* recognition. Those foragers I met who got to know nonhumans have stories about particular plants, mushrooms, or animals. They make memories with them, and importantly, they come to care what happens to them. They express grief at the thought that a familiar plant or habitat might come to harm, one that goes beyond the loss of a useful resource. For instance, Amber shared with me that it would pain her to lose the company and help of the nettles that she has harvested for several years,

> *[S]ome people would be happy to see nettle gone from the spaces that it's not indigenous to... I'd be really sad about that. I would feel… *pause* I would never want to take too much nettle so that there wasn't any left.*

Similarly, Isa expresses complex and ambivalent emotions towards an old silver maple that has started to pose a threat to pedestrians and cyclists

> *Yeah... *pause* This tree, it's so big, and it's… every year it loses another massive limb. I love this tree, and I'm gonna be so sad when it finally succumbs, but it also worries me a little cause there have been times when huge limbs fell on the bike path, and luckily nobody was there when it fell, but... All it takes is to be there at the wrong place at the wrong time, and I would not want one of those branches falling on me.*

In each of these cases, these foragers show their profound attachment to particular plants. Even when there are reasons for which to remove certain plants from an environment, the foragers still see loss of that plant as worth mourning. It appeared to me, however, that the relationships these foragers form with particular plants are different from the relationships they have with humans, in large part because of the lack of direct communication; but they nonetheless are moved by their attachments to plants. For these foragers, the decision to remove a non-native species or to fell an aging tree are not simple ones, and they cannot be taken lightly as they risk causing harm to the living plant-beings these foragers have come to know. In other words, these foragers think of the plants to which they are attached as ethical subjects, deserving of care and undeserving of undue harm. As they learn about how to care for their

nonhuman associates, some foragers learn to pay attention to the many relations that constitute the complex and dynamic lifeworlds of plants – the world as lived in by plants.

Nonhuman relations and ecological perspectives

> *Kneeling down to introduce herself to a mugwort plant, Amber asks if she could harvest some of their stems and leaves to make an oil infusion. First, she closes her eyes and quiets her mind, then she slowly opens them again and examines the plant. Looking closely, Amber notices a little caterpillar crawling on one of the fragrant, downy leaves. Surprised, she lets go of the plant and tells me she's not going to harvest it today.*

In the above vignette, Amber decides not to harvest a mugwort plant (*Artemisia vulgaris*) when she notices a caterpillar on their leaves. In this instance, she realizes that this mugwort is not only a source of medicine for herself, but a source of shelter and food for the caterpillar. Realizing this, she decides not to harvest the plant, as her action would have ramifications that ripple beyond only her and Mugwort. Amber's decision of whether to harvest a plant is always taken on a case-by-case basis, because she believes that every individual plant is embedded in a set of particular relations that cannot always be assessed ahead of time. As discussed in the next chapter, this set of relations is what constitutes a being's lifeworld – the material and social connections that give rise to the wants, needs, alliances, and antagonisms of a particular being. Amber told me that she generally decides whether to harvest a plant based on their reproductive habits, their local and regional abundance, and their relations to other nonhuman beings. She is less concerned about harvesting non-native plants because of how they interact with other nonhumans. Compared to plants who have co-evolved with a habitat for thousands of years, non-native plants do not have the same embeddedness as native plants do. They are not as densely connected to the other beings in their habitat as native plants. Although they might provide food and shelter to some extent, like Mugwort and the caterpillar, they have the potential to crowd out native species and disrupt the balance of a habitat. In an effort to forage responsibly, Amber tries to learn about the ecological relations between plants, animals, and fungi in the habitats where she lives and forages.

She is careful to limit the disturbance she causes – for instance by limiting how often she digs and filling in holes when she does – and tries to beneficially participate as an active inhabitant of the habitat.

It can be difficult to tell what qualifies as beneficial or at least minimally harmful foraging. Our own notions of care and harm cannot easily translate to nonhumans, as they do not share similar needs and interests as we humans do. In order to gain a sense of what constitutes harm or well-being for a plant, the foragers in this study paid attention to the plant as well as their social and ecological relations; for example, the caterpillars that use that plant for food or shelter. Recognizing that the lives of plants, animals, and fungi are intimately interwoven, these foragers contend that it is important to examine the relationships between nonhumans as a way to learn what they might consider harm or well-being. Moreover, these ecological relationships can also be seen as responsibilities that nonhumans have towards one another and are an integral part of what it means to be a mugwort, or a goldenrod, or a chanterelle, for example. Amber expressed this view to me as she imagined what a plant might say if she tried to harvest it at an inappropriate time:

> *"No! Don't take me now, because I'm habitat at a very crucial stage of development for this particular insect!"*

From this point of view, preventing a plant from fulfilling their duties towards others is an injustice towards them. Although Amber's perspective might be interpreted as a general pro-environmental ethic, her concern extends beyond the effect of her actions on the environment in general. She cares about how her actions affect particular plants, insofar as they enhance or interfere with their relationships with each other. When Amber or Isa reads about a plant or spends time with them, they pay attention to the myriad relations they have to other beings, asking many questions, including but not limited to: what habitat the plant thrives in, what companion plants they are associated with, who pollinates them, who eats them, who eats their fruit, who spreads their seed, who uses them as shelter or as nesting material? Over time

such enquiries help these foragers to develop a broader familiarity with the plant through knowledge of the plant's relations.

Furthermore, the ecology of a habitat is so complex that it would take years of study to meaningfully assess. Given that these foragers do not have the time to undertake such a study, they often rely on the native/non-native distinction as an ethical shorthand to inform their decision of when or how to harvest a plant. Amber explicitly makes this assumption when talking about her foraging practice:

> *Okay, so let's assume that more native plants is healthier for the ecosystem, so if I'm removing [non-native] plants, maybe I can play a little bit of a role in bringing things back into balance? I don't know...*

Isa elaborates on her use of the native/non-native distinction by referring to how non-native (and especially aggressive non-native) plants interact with others. She explained to me how she teaches her kid about it:

> *Sometimes our kid, he'll be like "mama, why are you taking these plants out of the garden?" and I'll be like "Well, you know, these plants, they don't know how to share, and so if I leave these plants here, then they're just going to take up more and more and more space, until there's no space for the plants that I want. And so, I don't really want these plants here because they don't know how to share."*

In this explanation, we can see that Isa only uses the native/non-native distinction as a starting point. Ultimately, her concern is with the ways in which plants interact with each other. Those that overuse common resources without providing for a broader community are treated unfavourably and removed from habitats in which they might interfere with well-established social and ecological relationships.

The familiarity with the habits of plants that Amber and Isa demonstrate cannot be developed overnight. Much like the ability to identify and recognize plants, this awareness and knowledge of nonhuman relations can be developed with practice and experience. Amber did not always look out for caterpillars when she harvested plants. It wasn't until she had a shocking experience that she learned about this relationship between plants and insects. Since she started harvesting stinging nettle (*Urtica*

dioica), Amber had always been taught not to harvest them after they flower. As far as she knew, once it is in bloom, the leaves develop cystoliths – crystals that can be irritating to the liver and kidneys. A few years ago, she started hearing other herbalists and foragers dispute this claim. Some argued that there was no scientific basis to this explanation, while others told her they had been using late-season nettle for years without issue. While all these conversations were swirling about, Amber moved to a new house. All of May and June were spent packing and unpacking boxes, so she missed the opportunity to harvest nettles in their peak season. When she finally had the chance to go out and harvest them, they were all in bloom. Considering the new information she had that assured her that late-season nettle had no harmful health effects, Amber decided to harvest the nettles despite having missed them before they flowered. When she returned the next day to check in on the nettles she harvested, she found red admiral caterpillars (*Vanessa atalanta)* crawling all over the drying racks and the floor! As she swept them up regretfully, she wondered if this might be the *real* reason one shouldn't harvest nettle in July. Ever since this incident, she always looks for rolled up leaves indicating a red admiral caterpillar is preparing a cocoon – even when the nettles haven't yet started blooming.

Image 3.1: Stinging nettles (Urtica dioica) *in bloom.*

Amber and Isa both learned to see the social and ecological relationships in which they participate through foraging and have adjusted their practices to limit the interference they cause. With humility, they recognize that they should not always harvest even though they may want to. As they get to know the complexity of a habitat's ecology, they learn to recognize and respect nonhuman interdependence. They strive to forage in ways that allow nonhumans to fully participate in the relationships they have with each other, and sometimes take corrective action to remove those plants, animals, or fungi that interfere with native plants' lifeworlds – as elaborated upon below. Amber describes the tension she feels, as she strives towards a thriving ecology while knowing that as a human, there is so much that she will never know about plants, animals, and fungi.

> *There is a concept of regenerative agriculture, and this is something, that I'll never really know for years and years and years, but my goal – what I hope for – is a kind of regenerative wildcrafting. So that at the end of the day, my relationship with the land is moving towards increased biodiversity, increased soil health, increased healthy plant populations. Which I... I mean, that's the goal, and I recognize how... The hubris in that, right? Like, as the human who thinks that they know better…*

Yet even those foragers who have not developed their knowledge of nonhuman lifeworlds can act from a similar place of humility. For example, Steph shared with me that her attitude towards the forest in which she lives is one of "benign neglect", as she puts it. Except for invasive plants, which she tries to remove wherever she finds them, Steph prefers not to interfere with how plants are growing: even if she could enhance the productivity of one of her favourite patches by weeding out competing plants, she lets them grow without interference. Steph's attitude is one of humility, as she recognizes the limits of her understanding of the forest and acts within them, intervening only when she feels that inaction would unambiguously bring harm. Moreover, through her hands-off approach, she puts her desire for wild foods and medicines behind the needs of the plants and habitat she harvests from. Steph shows us that it is possible to act in ways that respect nonhuman interdependence, even without a deep knowledge of

nonhuman lifeworlds. Humility is especially important in ethically ambiguous situations, as it prevents foragers from assuming that they understand the potential effects of their actions.

Intuition, uncertainty, and consent

On a warm August afternoon, Isa and I went on a walk along the Rideau River to gauge the acorn crop this year. Along the way, she stopped to investigate a small stand of red pines, which she had learned might be associated with pine boletes (Boletus pinophilus). Instead, we found a mature stinkhorn and a scattering of abandoned candy wrappers. Concerned that she forgot to bring a garbage bag, I offered Isa a spare plastic bag I kept in my backpack. Thanking me, Isa accepted the bag and stowed away the candy wrappers. She told me that she likes to pick up garbage as a way of giving back for the food and medicine she receives from the land along the river. Comparing it with the Anishinaabe practice[1] of offering tobacco, Isa told me that she feels like it's a way that she can give back without appropriating anyone's traditions. As we walked away from the pines, she reflected on how she communicates with plants:

> *"Some people feel like they can communicate directly with plants and stuff – and that's great for them – but I don't feel like I'm one of those people. At least not on those terms. So, I try to be aware of the environment and the plants and see how they're doing, see how many there are. And if it seems to me like they could not support harvest, then I won't take anything. I guess in a way that's asking for permission, it's just trying to be aware."*

In this story, Isa demonstrates and describes her method of communicating with plants. Often, we think of communication in linguistic or verbal terms, yet plants do not have the same communicative abilities as we do. The moments before and after harvesting plants are always important for Isa, as well as Amber, as we will see. Isa is going for this walk before the acorns are ripe so that she can tell how many acorns the oak trees will be dropping this year. She told me she doesn't want to make plans to harvest lots of

[1] The practice of offering tobacco when receiving gifts from the earth is common among Anishinaabeg. However, it is not exclusive to them – many other Indigenous nations also follow these practices.

acorns if the oaks, squirrels, geese, and ducks (among others) cannot handle it. Even though she never directly talks with the oak trees along the river, this is how she asks for permission. Similarly, she may not tell the oak thank you for the acorns, but she shows it through the care and attention she gives to their home.

For Isa, communicating with plants is a non-verbal affair. She does not listen to plants with her ears, expecting to hear them speak to her in English. Instead, Isa reads plants' signs – patterns that indicate a plant's condition or their interactions with others – as a way of listening to plants. For example, she teaches the children in her daycare that poison ivy is telling them that they shouldn't walk somewhere because it grows in places where the forest needs to heal (see Chapter 4).

Amber extends Isa's observational method through her use of intuition. Although observation and intuition are often seen to be at odds, both among foragers and the general public, Amber employs them in complementary ways. Intuition is often regarded as form of superstition, an ungrounded figment of the imagination. In practice, however, intuition can result from observations that evade understanding. Rather than consciously evaluating a situation, intuition will instead arise as a feeling that something's "off" or "not right," or conversely as a sense that things just feel right. This kind of intuition can be valuable when interacting with nonhumans because humans and nonhumans do not primarily communicate through a shared method. Although consciously observing signs can help bridge this communicative gap, due to the immense complexity of the more-than-human world, conscious observation can never fully address this disparity. Intuition can help foragers address the remaining gap by circumventing the process of interpretation, instead relying on prior experience with nonhumans and overall impressions. Crucially, neither conscious observation nor intuition are themselves sufficient, they must act complementarily. As Amber explains,

> *I usually tune in with my senses first. I trust my senses more than my… *pause* because when I ask for permission, I don't trust myself enough to know whether my*

> *brain is telling me what I want to hear. So, I tune in with my senses first, then I kind of ask that question. So, I've never been in a position where a plant has said yes but everything else has said no.*

When she asks if she can harvest a plant, Amber does not trust herself to intuit a "yes," knowing that she has an incentive to hear what she wants. Rather, she asks the plant whether it is ok for her to harvest after making all her observations and remains open to the possibility that the plant would say "no." Even if all else says "yes," if her intuition tells her she should not harvest, she does not. Relying on intuition in this way makes room for uncertainty, as it allows Amber to refrain from harvesting a plant even when there is no obvious reason why as to why she should. Even in the absence of a common language, this balance of observation and intuition allows Amber to remain receptive to the complex lives of nonhumans, even when it exceeds her capacity for conscious perception. Importantly, for Amber and Isa, intuition is only a part of their ethical decision-making process rather than the entirety of it, in balance with conscious observation. In contrast with Amber and Isa, Birdie often relies solely on her intuition to decide whether to harvest a plant. As she explains it,

> *I just kind of check with my gut about whether or not I'm at a point where I want to harvest. And sometimes, I'll harvest a bit and take it home, and just kind of hang out with it. Like, leave it in my space and research a bit, whatever.*

Birdie told me that, relying on her intuition in this way, she once brought home a plant that she thought was eyebright (*Euphrasia officinalis*), when she looked it up, she found out that it wasn't the plant she expected. Although she could have taken photos of the plant or returned with a photo or field guide to reference, Birdie harvested the plant because her intuition told her she was ready to harvest it. Rather than using observation in conjunction with intuition, Birdie relied solely on her intuition.

Although intuition can help accommodate the communicative gap between humans and non-humans, and the uncertainty inherent in this, the term "intuition" can cause some confusion if not well semantically defined. The way that Amber and Isa use their intuition differs greatly from Birdie, and it is important to make a distinction between these practices when discussing intuition. Because Amber and

Isa use their intuition in conjunction with conscious observation, we can refer to it as "grounded intuition," in contrast with the "ungrounded intuition" that Birdie employs. Amber's method of tuning into her intuition as an extension of observation is a clear example of grounded intuition, as it directly follows from her experiences with particular plants and habitats. In contrast, Birdie often relies on her intuition as a substitute for observation, as was the case when she tried to identify a plant intuitively. As a trained sense, intuition can be practiced and improved, but it necessitates time spent with plants in their habitats. It is important to make the distinction between grounded and ungrounded intuition because they engage with nonhumans in different ways, and therefore have different ethical functions.

As mentioned above, grounded intuition is important as an ethical practice because it provides a chance to bridge the communicative gap between humans and nonhumans. It is grounded in observation and experience and learned through time spent with plants in various settings. Grounded intuition provides an opportunity for foragers to act with humility, as they recognize that they cannot consciously understand every consequence that their actions will have. Ungrounded intuition does not bridge the communicative gap in the same way as grounded intuition because it does not arise from direct experience. Furthermore, in cases where foragers confront ambiguity about whether it is appropriate to harvest, ungrounded intuition can be used to justify extractive harvesting practices. For example, when Birdie brought me to one of the spots she harvests from often, she found some selfheal (*Prunella vulgaris*) hidden under a canopy of poison ivy (*Toxicodendron radicans*). The inaccessibility of this plant gave her pause, but she decided that her desire for selfheal was strong enough to justify harvesting in this moment. This excerpt indicates how she came to the decision to harvest the plant:

> *Ah see! Then this friggin selfheal is hiding under all the fucking poison ivy! […] If I had jewelweed, I would just put it to the test. But I don't... Okay, and I want some of this selfheal though. *pause* I'm just going to go for it. Cause I do have fresh jewelweed oil at home, and I haven't had poison ivy since I was a kid. I think I can get it without... "Aah are you hiding down there like you don't want to come home with me?" *Harvests selfheal**

In this situation, Birdie was not familiar with selfheal, as she had only started learning about and harvesting the plant that season. Instead of arriving at the decision of whether she should harvest the plant based on her observations (that selfheal was growing under poison ivy), she relied on her ungrounded intuition, which reassured her that it was fine to harvest. Although she acknowledges that selfheal "hiding" under poison ivy might be a sign that they don't want to be harvested, she never acts upon this possibility. In this scenario, Birdie trusted her intuition (and interest) above her observations.

Much like skills of observation and awareness, grounded intuition can be developed over time. Even foragers like Isa and Amber who have spent years practicing their observational skills are always noticing new things whenever they go out for a walk or a harvest. They have never reached a point at which they are able to notice and be aware of everything. Their knowledge of the places they visit is constantly evolving. Along the same lines, Birdie is developing her knowledge of place even as she relies on her intuition. As she becomes more comfortable with using observation, she may start using her intuition in conjunction with observation, in a manner that is similar to Isa and Amber. However, it remains to be seen whether it is possible to transition from ungrounded to grounded intuition. The experiences of Isa and Amber both suggest that it may be possible to facilitate the development of this skill. A big part of their knowledge at the time of my research was built on stories that they had sought out about plants and habitats they spent time with. Both foragers would research the plants they thought they knew with the intention of learning more about their lives. As long as they are accurate and richly detailed, the stories they found could direct these foragers' attention towards important signs, events, and relationships between nonhumans. Being immersed in the real stories of others can provide foragers with a preliminary sense of a place that can be later confirmed through practical experience. This "head start" can help foragers develop a grounded intuition by connecting their experience of a place with meaningful observations. However, inaccurate or incomplete depictions can lend a false sense of understanding that precludes further learning. For example, in the earlier story of Amber, the nettle, and the caterpillars, she

had heard stories about the plant that did not include the relationship between caterpillar and nettle. Therefore, she harvested the plants with a misplaced sense of confidence. It was only through her shocking experience that she was able to notice the gap between the stories she had heard and the realities of the plants (and caterpillars) she harvested. This example suggests that humility is an important part of how foragers use intuition. Amber explicitly avoids using her intuition as a license to harvest because she knows through her experience with nettles and caterpillars that her confidence can be misguided. If Birdie changes the way she uses her intuition, it is likely that it will be accompanied by a shift towards a humbler approach to foraging. Conversely, if she adopts a humbler approach to foraging, she may start using her intuition differently as well.

Certain foragers I spent time with, especially Isa and Amber use non-verbal methods of communicating with plants. Among these methods, observation is one of the most significant. However, because of the communicative gap between plants and humans, they also employ intuition in their harvesting practices. Importantly, this intuition is not a substitute for observation, but is rather used alongside it. They act with humility, recognizing the limits of their understanding. In doing so, they provide opportunities for nonhumans to refuse their requests, even without the foragers understanding exactly why they feel uneasy about a harvest.

Acts of intervention: Harvesting, weeding, sowing, and storytelling

People who do not forage often think of it as simply finding, identifying, harvesting, preparing, and consuming wild or feral plants or fungi. However, I came to see through my observations of foragers in action that non-extractive foraging in particular involves much more than is accounted for in popular understandings of foraging. In addition to harvesting plants or fungi, foragers participate in acts of caring such as weeding, sowing, and storytelling. Each of these acts challenges widespread anthropocentric ways of thinking about both the practice of foraging, and more broadly about nonhuman beings. Through their interventions with nonhumans, foragers make an empathetic leap into the lifeworlds (see Chapter 4) that

nonhumans inhabit. Foragers imagine the consequences of their actions, drawing on their ecological knowledge and their grounded intuition. Through each activity – harvesting, weeding, sowing, and storytelling – foragers become aligned with or against various nonhumans in some way. These interventions are thus replete with ethical consequences and considerations. Straightforwardly, a forager who is removing an invasive species from a habitat is clearly aligning themselves with the native population and against the encroaching plant, but some native and non-native plants, animals, and fungi might still have relationships with the plant that is removed. They therefore put themselves into an ethical grey area and have to decide whether and how to intervene in lifeworlds beyond their own.

Harvesting is the activity that foragers give the most direct thought. Foragers must decide who, when, where, and how they should harvest or not. Because these decisions directly involve plants that they consider useful, the forager's goals are most often aligned with those of these plants. If they want to be able to harvest from a given patch well into the future, they have a reason to harvest in ways that enhance the species' health, range, and/or population. To this end, the foragers I spent time with often harvested from high-density areas in a patch so as to thin them out and make room for new growth. They often spread out their harvest within and across patches, taking from wherever plants are most abundant so that they can recover from year to year. Amber is careful to align her harvesting methods with the life cycles of the plants she gathers in order to ensure their long-term prosperity. This is how she described how she harvests ramps (*Allium tricoccum*) and why:

> *I don't really gather wild leeks – ramps. If I do, I harvest the leaves, not the bulbs. Because it's a spring ephemeral, it only has a short season of growth before the trees leaf out and the overstory kind of shades everything out. It takes 7 years for the plant to reach maturity before the seeds are viable, it can take up to 3 years for a seed to germinate. So even harvesting a small percentage of ramps, even in a place that's really prolific can actually have a significant impact on the overall plant population.*

Harvesting is not always about enhancing a particular plant's success in a habitat, as is the case when foragers work with non-native plants. Rather than aligning themselves only with the plant they use, they

consider their place within the habitat as a whole, as they try to limit their disruption of the complex web of relations between nonhumans. Where they do work with non-native plants, these foragers limit their spread while preserving their role as a source of food and habitat for other beings. For example, Amber harvests stinging nettle, a non-native plant. Although she would personally benefit from having a vast field of stinging nettle to harvest from, she keeps the plants from spreading so that other native plants have a chance to thrive and provide habitat for a variety of nonhumans. Amber grows stinging nettles in her garden and harvests from a feral patch she returns to year after year, yet she refrains from harvesting them when they are being used as a shelter by the red admiral butterfly. Nevertheless, these perennial plants don't have the chance to spread far beyond her harvesting sites because she collects their seeds at the end of the season for food and medicine.

Although some extractive foragers may take care to harvest native plants sustainably, they are often motivated to do so by their desire to harvest more in the future, and will treat native and non-native, and in some rare cases invasive plants, in the same way. This can be seen in how Birdie treats Japanese knotweed (*Reynoutria japonica*), a notoriously invasive plant. She found a small patch along the edge of a public park. However, rather than trying to control its spread, she told me that she was waiting to inform the city about it so that she could gather some roots in the fall before city employees sprayed it with herbicides. She did not tell me what she wanted to do with these roots, but this comment might imply that she wants to grow this plant in her garden.

Birdie's attitude towards Japanese knotweed is certainly unusual among foragers. Most of the foragers I spoke with remove plants from the places they regularly visit, whether they harvest from them or not. While only one forager told me that she removed poison ivy (*Toxicodendron radicans*), a native plant, from near her house to keep her children from getting rashes, several foragers I spoke with told me they regularly removed invasive species whenever they found them. These foragers removed a variety of plants that are generally recognized as invasive species in Ontario, including Japanese knotweed, garlic

mustard (*Alliaria petiolata*), creeping bellflower (*Campanula rapunculoides*), goutweed (*Aegopodium podagraria*), and glossy buckthorn (*Frangula alnus*). Although they leave most plants alone to grow as they will, plants that foragers classify as "invasive" often prompt direct intervention, usually in the form of population control (e.g., weeding, removing flowers or fruits, etc.). Isa explains her approach to invasive plants in terms of how they participate in the lifeworlds of other beings:

> *So, a place that I consider to be wild, I would probably just leave it be, unless I noticed something that was potentially really disruptive, like if I noticed that there was a species that was not indigenous to that place that had somehow gotten there and had the potential to crowd out a lot of the local plants, then I would... And I do that actively at my mom's place. […] there have been times when garlic mustard and goutweed started to grow there.*

Isa explains her plant-removal practices in terms of competition between specialists and generalists. Whereas specialist plants such as spring ephemerals or alvar-contained plants thrive in stable environments with well-established niches, generalists (also known as opportunists or pioneers) quickly establish themselves in disturbed environments and often modify the complex web of relations in their habitat in ways that make it inhospitable to specialist plants. When she sees opportunistic plants encroaching on a specialized habitat, Isa feels inclined to intervene "to try and help keep that diversity and stop it from tipping into a less diverse kind of space." By removing opportunistic/invasive plants, Isa is trying to preserve biodiversity and make room for the specialized relations that underpin the lifeworlds of native plants, animals, and fungi. As mentioned above, she uses the categories of "invasive," "non-native," or "generalist" as a general guide to her ethics. Ultimately her decision to remove these plants are based on how they interact with other nonhumans.

In addition to removing disruptive plants, several foragers I spoke with also spread the seeds of useful or uncommon native plants. In doing so, they help these plants (re)establish themselves in areas to which they are indigenous. Isa told me about how she likes to do this with fireweed (*Chamaenerion angustifolium*).

> *One of the things that I like to do is... when there are plants that I really love, is to collect seeds and then spread them around. So, with fireweed for example, I love fireweed. I love it for tea, I think it's really beautiful, and so whenever I see a patch of fireweed that's going to seed, I'll collect some of the seed and bring it back home. And I've got a patch that I've started in the backyard.*

Beyond simply spreading seeds, Isa collects them from various locations in an effort to increase the genetic diversity of the patch she has established in her garden. With greater diversity, the population of fireweed plants is more capable of thriving in a range of habitats and overcoming environmental stressors such as drought or disease. By gathering seeds from several places, Isa is helping the fireweed patch she harvests from establish a thriving population. Isa also spreads the seeds of wild native plants that she doesn't harvest from, including butterflyweed (*Asclepias tuberosa*), common milkweed (*Asclepias syriaca*), jewelweed (*Impatiens capensis*), and cattail (*Typha spp.*). In addition to spreading seeds herself, she encourages the children in her daycare to learn how certain plants disperse their seeds and "lend them a hand," either by blowing their seeds around or popping their seed pods. Amber also helps native plants establish themselves locally by providing her garden as habitat. Whenever a native plant comes up as a volunteer in her garden, she lets them grow, produce seeds, and ultimately spread.

Foragers' ethical engagement with nonhumans extends beyond direct physical interventions, as they also try to enhance the well-being of nonhuman communities through storytelling. As discussed earlier in this chapter, stories are an important method by which people learn about nonhuman lifeworlds. Both Isa and Amber tell stories about their experiences with nonhumans and about what they've learned from them – Isa with the children at her daycare and Amber with the people she teaches in her wildcrafting and foraging lessons. When they tell these stories, they emphasize the relations between plants, animals, fungi, and/or weather. For example, Isa teaches the children at her daycare about poison ivy, about how it protects the forest, and that "when you see poison Ivy, it's telling you that you don't walk there." So, she tells the children "We just look with our eyes, we don't touch with our hands." When they pass by patches of poison ivy, they wave at it and say things like: "Hello poison ivy, thank you for

protecting the forest. We promise not to walk on you." Indeed, poison ivy grows in disturbed areas and along edge habitats and plays a role in the process of ecological succession. Through this story, Isa is able to teach the children about poison ivy's role in "healing" after disturbance while persuading them not to touch the plant out of a sense of respect rather than of fear. She tells similar stories about inedible berries, like those from dogwood trees (*Cornus spp.*) or white baneberry (*Actaea pachypoda*). Rather than solely focusing on the fruit's inedibility for humans, she calls them bird berries or chipmunk berries, reminding the children that even though these berries are not for them, they are useful for other critters. Above all, Isa wants to impress upon the children at her daycare that plants are not passive. This is how she explains her approach:

> *The thing that a lot of kids don't realize... Like it's very easy for a kid to be excited about an animal that's flying around or hopping around, and looking so cute with eyes, and a mouth, and a face. It's like "yeah this is relatable", but then when you have plants that don't have a face and it's not obvious that they move. It's not on a timeframe or a timescale that humans can relate to as easily, a lot of them.*

She tries to help children see plants as dynamic by telling stories in which they are anthropomorphized – or, attributed human traits – such as in the story about poison ivy above. The stories that Amber shares are similar to Isa's in that they emphasize the relations between nonhumans above all else – for example, her story about red admiral butterflies and stinging nettles found earlier in this chapter. However, unlike Isa's stories, Amber does not explicitly anthropomorphize nonhumans.

Image 3.2: White baneberry (Actaea pachypoda) *displaying its characteristic white waxy fruits, which are toxic to humans.*

What the examples of harvesting, weeding, sowing, and storytelling described in this section all have in common is that they challenge widespread human exceptionalist ways of thinking about nonhuman beings. By paying attention to relations between nonhumans, Isa and Amber are able to imagine how they participate in the diverse lifeworlds of plants, fungi, and animals who all have very different needs than their own. They use ecological concepts such as biodiversity and invasive species to better understand how their actions might affect these lifeworlds. In some cases, they align themselves with some beings over others and directly shape the landscape through their decisions of when and how to harvest, weed, and sow. Overall, they generally act with the goal of preserving biodiversity and enhancing well-being of useful and non-useful native plants. Even when not directly intervening in nonhuman communities, they tell stories that teach others to see the interconnected lives of nonhumans like they do. Although they challenge human exceptionalist ways of thinking, they do not completely remove themselves from the picture. They acknowledge their perspective as part of a constellation of lifeworlds rather than being the center around which the rest of “nature” is arrayed as resources to be consumed without regard. However, they strive to strike a balance between their own needs and wants, and the well-being of the more-than-human communities in which they participate.

Conclusion

Throughout this chapter, I described how the foragers from this study attempt to build ethical relationships with nonhuman beings. This begins with an awareness of nonhuman beings as dynamic living beings worthy of ethical recognition. As they spend time with plants, animals, and fungi, they learn to recognize them and soon form emotional bonds with them. Building upon this awareness, some foragers develop a deeper knowledge of the plants they spend time with and start to get to know their social and ecological relations with other nonhumans, as well as how they grow and reproduce. Gaining a sense of the lifeworlds beyond their own, these foragers learn to act from a place of humility, where they recognize that they are only a small part of a more-than-human world that extends far beyond the reaches of their knowledge and understanding. From this place of humility, they learn to respect the autonomy of nonhumans by trusting their intuition as a complement to and extension of their observational skills. Ultimately, these ethical relationships guide the ways in which they participate in more-than-human lifeworlds, and their participation in these lifeworlds shapes the relationships they have with nonhumans.

I began this chapter by making a distinction between extractive and non-extractive foraging, and throughout the chapter I drew comparisons between foragers whose approaches and actions fit within either of these categories. However, I do not want to leave the impression that these categories are firm and static. The foragers who adopt many “non-extractive” practices sometimes harvest plants carelessly, just as those who tend to forage “extractively” sometimes demonstrate careful and considerate tendencies. Through my experience spending time talking with foragers as they went out to harvest plants and mushrooms, I strongly believe that foragers who currently engage in more extractive methods are capable of learning to forage in less extractive ways. It may be a long journey, but spending time with plants, paying attention, and learning to be humble are all important steps towards building ethical relationships that recognize and value the relations through which plants and other nonhuman beings are interconnected.

I myself went through a similar process over the course of this research. In 2017, 2 years before I began my master's, I was working in Toronto, on a street lined with magnolia trees. I started my job in May, around the time they started blooming. Every day, on my walk to work I was dazzled by their enormous and colourful flowers that leapt from their bare branches. These trees simply could not be overlooked, so I took a photo and asked everyone I knew if they could tell me what trees they were. When I found out that they were magnolias, I could finally put a face to the name I had heard in countless songs and poems. I suddenly felt like I was able to share the joy of living with such stunning trees with all those who had proclaimed their splendor before me. This brought me on a very slow and winding path towards learning the plants around me, often disembarking from my bike in the middle of my commute to take a closer look at a tree I couldn't tell was a fir or a spruce. Many seasons later, as I write this, I have a profound sense of familiarity with most of the plants I encounter on a regular basis. I think back fondly on every time I realized that I could recognize a tree from a city block away.

Beyond recognition, I learned so much during this research. The foragers I spent time with let me into the little worlds they had made with plants of all kinds, sharing their stories at every new location we visited. It inspired me to start foraging myself, albeit very slowly as well. From time to time, when I was on a walk, I would harvest a few wild raspberries, blackberries, thimbleberries, or grapes to share with friends or family. I also harvested and processed some raspberry leaves for tea and plantain seeds which I ground up to add to food. I took care to only harvest the plants I was comfortable with, which meant mostly harvesting fruits and seeds from plants that were abundant in my area. In order to become familiar with more plants, to the point that I might eventually feel ready to harvest them, I learned a great deal about the ecology of our region, and the relationships between various plants, animals, and fungi. For me, foraging has been an entry point into a larger understanding of where I live and has mutually reinforced my increasing awareness of the plants, animals, and fungi around me.

Chapter 4 – Naturalcultural theorizing

As discussed in Chapter 1, academics have noted the impact of human exceptionalism and its role in our many immanent environmental crises. Scholars raised an urgent call to challenge human exceptionalism in academia and beyond. In this context, I undertook this research project to investigate how foragers adhere to and challenge human exceptionalism in their practices. The purpose of this chapter is to theorize with the foragers of this study about the place of humans in a more-than-human world. In developing this framework, I also aim to provide a guide through which to understand the ethical dimensions of forager-plant interactions. The framework that is elaborated in this chapter conceptualizes humans and nonhumans as "living-persons" who are bound to one another through shared sociality and materiality. Interactions between them can be seen as sporadic, intermittent, and partial encounters, through which all parties are changed, or "contaminated." Living-persons acquire new habits or lose old ones through their encounters, thereby becoming changed, and acting differently in future encounters.

Informed by my experiences with foragers and the plants they harvest (Chapter 3), this chapter presents alternative conceptualizations of nonhumans and the relationships we have with them. As Willie Ermine (2007, p. 195) suggests, before we can talk about ethical relationships between two groups, we must first examine the undercurrent that shapes the understanding, or lack thereof, between them. As explained in Chapter 1, in the case of the relationships between humans and nonhumans, a significant part of this undercurrent is the ideology of human exceptionalism. As we will see in this chapter, it has profoundly shaped our conceptions of personhood, sociality, ecology, and ethical subjectivity. In this chapter, each of these areas will be reviewed in turn in order to develop a conceptual framework that is meaningfully inclusive of nonhumans. However, before examining this undercurrent, I will introduce the concept of lifeworlds, as this will underpin much of the reasoning throughout the rest of the chapter. Finally, this chapter will close with a discussion of nationhood as an ethical framework through which to structure human-nonhuman relations.

Lifeworlds

The concept of lifeworld is very helpful towards understanding the ontology of human-nonhuman interactions and for understanding how Isa and Amber both think about nonhumans and the relationships among them as well as those between humans and nonhumans. The concept of lifeworld has roots in the idea of *Umwelt*, which refers to the unique perceptual worlds of humans and nonhumans. Lifeworld describes the interaction of *Umwelten* that only partially overlap. Where *Umwelt* refers to an organism's perception of the world, lifeworld describes the world as inhabited by an organism. It speaks to how different perceptions of the world are nonetheless grounded in a shared material basis. Finally, the concept of lifeworld has implications for how we interpret interspecies sociality.

The concept of *Umwelt* (von Uexküll, 1934), which can be literally translated from German as "surrounding-world," describes the world as experienced from within a body, human or otherwise. The bodies of humans, insects, and plants, among others, include sensory organs that can differ remarkably. Consider, for example, a tick. Their experience of the world is marked by three carriers of significance to which their bodies are sensitive: the odor of butyric acid present in the sweat of mammals, the body temperature of mammals (37 degrees Celsius), and the topography of the skin of mammals (Agamben, 2004, p. 46). Their sensory abilities, and therefore experience of the world, are shaped by their life cycle, which is closely tied to their successful detection of a host mammal in which they aim to lay their eggs.

All too often, we assume that our human senses represent the world objectively, as it truly is. Yet is our experience of the world truer than that of a fly, whose compound eye is sensitive to ultraviolet light? Do our noses represent the world more faithfully than those of dogs, who are highly sensitive to scents beyond our attention? Every perceiving body in the world experiences it in an active and partial way (Haraway, 1988). We cannot detach ourselves as humans from the grasping, running, seeing, and hearing histories of our ancestors. Our bodies and perceptual abilities are products of these histories, just

as the bodies of flies and dogs are of their own histories, as well as current environmental contexts and needs. To us, the tick is blind to their environment, as their *Umwelt* is restricted to three primary senses (odor, temperature, and touch), yet other creatures may see us as similarly blind to things that lie beyond our own senses. The notion of *Umwelt* allows us to imagine the worlds inhabited by nonhumans that lie beyond our sensory capabilities.

Although for most Canadians trees are not generally regarded as sensing beings, trees and other plants have complex lives abound with markers of significance. Whether or not we regard them as self-aware, it is clear that trees have *Umwelten* too. Peter Wohlleben describes the worlds of trees as remarkably social (2016). Trees form resource-sharing associations with fungi and other trees, providing nutrients to each other to maintain the overall health and stability of the forest (Perry, 1998; Simard et al., 1997). They communicate with each other through airborne chemical signals – scent – (Furstenburg & van Hoven, 1994), and emit and respond to vibrations in their physical environments – sound (Gagliano et al., 2012; Ponomarenko et al., 2014). It may be considered inappropriate to describe trees' experiences of the world through analogy to our own senses, but it helps to illustrate the active manner in which they perceive and respond to happenings in their environments. Like humans or ticks, they are responsive to the things that matter in their lives, such as the amount of light that shines on their leaves or the force of gravity (Moulton et al., 2020).

Von Uexküll's concept of *Umwelt* challenges the notion of a universally knowable world. If every kind of being that inhabits our shared world has vastly different perceptions of it, can we ever claim to know it beyond our own perspective as humans? If the perceptual experiences of trees, ticks, and humans differ so greatly, can we even speak of a common reality? Brian Massumi (2002) offers some insight into this question, as he describes perception as a relation that lies *between* the perceiver and the perceived. Although perceptual experiences of the world, *Umwelten*, can differ greatly, they are not purely subjective. That is, they are determined by the perceptual capacities of the perceiver and the physical

qualities of the perceived. Perceptions do not inhere solely within one or the other. Rather, Massumi regards perceptions as "tokens of the perceiver's and the perceived's concrete inclusion in each others' worlds" (2002, p. 90). For example, a flower may contain particular arrangements of atoms within the cells in their petals. These arrangements of atoms absorb light at certain wavelengths, such that they are what we call a pigment. However, the presence of this pigment within the flower only becomes a colour when someone who can detect the absorbed wavelength is present to observe it. Humans experience flowers very differently from bees, who can see light in the ultraviolet spectrum. Massumi argues that this difference in perception exists because perceptions are actions in their latent sate. In other words, because bees interact very differently with flowers than we do, we have each adopted different ways of perceiving flowers (2002, p. 91).

Where *Umwelt* describes an entirely personal experience of the world, the term lifeworld also contains an intersubjective dimension. Originating with Edmund Husserl (1936), it has come to be widely used in phenomenological sociology and anthropology to denote the dynamic intersubjective context in which life is lived. Whereas *Umwelt* describes a being's experience of the world, lifeworld describes the world as experienced by a being. Although there may be a plurality of lifeworlds, they all share a common materiality. In the example detailed above, the flower may participate differently in the lifeworlds of humans and bees, but it remains the same flower, nonetheless. If the human picks the flower, it will no longer be available to the bee. The concept of lifeworld thus provides a bridge between a subject's perceptive realm and the materialities that shape the lives of the many beings that share common physical spaces.

My understanding of the concept of lifeworlds is greatly inspired by Sophie Chao (2018), who uses it to understand relations of interspecies care. Writing about the contention between the Marind people of Khalaoyam, in West Papua, and *sawit*, the African oil palm (*Elaeis guineensis*) Chao describes the fraught relations between the Marind people and the palm as stemming from the ways in which they

participate in each other's lifeworlds. As Chao demonstrates, the acrimony between Marind and *sawit* cannot be explained by its status as a newcomer. Rather, *sawit* is disliked because it disrupts the lifeworlds of forest-dwellers (human or otherwise), imposing its presence on others through its involvement in "an extreme form of domestication or violent care" (Chao, 2018, p. 629). As a cash-crop grown according to a plantation model, *sawit* is intimately bound up with processes of forest encroachment, river diversion, and pollution, participating as the Indonesian state power's "biological ally" (Crosby, 1972, p. 52). Prior to *sawit*'s arrival Marind and other forest-dwellers lived according to an environmental ethic of "restrained care," in which relations between species were carefully balanced so as to preserve each other's autonomy. *Sawit* disrupted this balance in favour of its own predominance. When plantation workers cleared vast swaths of forest, *sawit* took over the homelands that were destroyed. When water was redirected from rivers to irrigate plantations, *sawit* drank plenty while others were left to go thirsty. The destruction that has accompanied *sawit*'s arrival is not intrinsic to the palm itself, but rather an outcome of how it participates the lifeworlds of others.

We can apply and further develop the concept of lifeworlds through insights gained from the time I spent with Isa and Amber. Both foragers demonstrated a remarkable awareness of the lives of the plants they spent time with. For example, Isa told me that she wants the children at her daycare to care about plants, even when they cannot eat them. She therefore tells the kids about the "bird berries" and "chipmunk berries" that are not edible for humans but are very important sources of food for other animals. This perspective does not only recognize plants as valuable beyond their use value to us, but it recognizes that they can be perceived in multiple ways. Amber also talks about nonhumans as participating in lifeworlds that extend beyond our own. She recognized that many of the plants which are beneficial to her can sometimes be detrimental to others, given that they are not native to the places from which she harvests. Her relationships with these plants therefore involve balancing the beneficial presence of these plants in her lifeworld, while mitigating the harm these plants can cause in the lifeworlds

of others. For example, Amber harvests nettles for food and medicine, yet she is careful not to harvest them while they are being used as habitat by the red admiral butterfly. However, near the end of the growing season, she harvests all of the nettle seeds, ensuring that the plant does not spread very far beyond the patch where she can look after it.

The concepts of *Umwelt* and lifeworld both suggest that the world is different depending on who is perceiving it and where they are perceiving it from. However, every perspective is joined by their capacity to affect and respond to change. Chao describes the world in which we live as constituting a set of overlapping lifeworlds connected to one another through their joint materiality. Although meaning cannot necessarily translate across lifeworlds, this divide is bridged by the materiality of things living and non-living. This means that ethical thought that extends beyond humans cannot take for granted the notions of care or harm, or "good" or "bad." More-than-human ethics must instead be seen as a practical endeavour in which what counts as care and harm are learned from nonhumans themselves. Furthermore, understanding that the meaning we attribute to the world is contextualized within our own lifeworld allows us to view sociality in a more expansive sense, and potentially recognize nonhuman personhood.

Nonhuman personhood

The question of who counts as a person is one of great consequence. In our society, personhood is understood to dictate belonging to a moral community (Feder Kittay, 2005; Ikäheimo & Laitinen, 2007). Those we recognize as persons are viewed as being deserving of care and afforded a basic measure of protection from harm. Conversely, those who are deemed non-persons are susceptible to violence and subjugation. Personhood can be attributed in both formal and informal settings. For instance, legal personhood endows a person with certain rights under the law (see Beaudry, 2016). This affects how one interacts with formal institutions. In interpersonal settings, social dynamics are shaped by the presence

or absence of a mutual recognition of personhood. Dehumanizing ideologies such as racism (see Chapter 1) and violence stemming from them are premised on the assumption that certain groups of people are not truly persons.

There are three broad schools of thought with regards to the ontology of personhood, as described by Foster and Herring (2017). The first sees it as an innate feature of the human species. From this perspective, every human being is a person by nature. Hall (2019) points to the interchangeable usage of human being and person in colloquial English speech as evidence of this view. This perspective is often associated with major religions, as it is assumed that personhood is a direct consequence of being endowed by a God with a soul, which is in turn believed to distinguish human kind from nonhuman animals (e.g. White, 2013). It must be noted that an assumed boundary around human personhood is directly embedded within this definition. This definition is therefore categorically incompatible with any extension of personhood to nonhuman beings, as this would disrupt its fundamental premises. Therefore, it is an unsuitable candidate for a theory of personhood beyond the human.

The second mainstream philosophical approach to personhood is to attribute personhood to beings with certain cognitive qualities. There have been several attempts to identify a set of cognitive characteristics that would qualify one as a human (e.g. McMahan, 2002; Warren, 1996), yet they all share the premise that personhood is a characteristic intrinsic to the mind. This perspective draws on the idea, popularized during the Enlightenment, that Man is a “rational animal” (see Boas, 1933). In other words, that the defining trait that distinguishes human beings from nonhumans is our ability to think rationally (Millikan, 2006). This idea is very closely related to the soul thesis, as it has long been held that human rationality is a consequence of possessing a rational soul, as opposed to the sensitive souls of nonhuman animals or the vegetative souls of plants (Dales, 1995). However, this argument differs significantly from the previous one in that it can theoretically admit nonhuman personhood if any nonhumans were capable of demonstrating similar cognitive characteristics to humans. Many animal rights groups have advocated

for a recognition of nonhuman personhood on these grounds, claiming that certain animals such as dolphins, whales, and apes possess enough of these such traits to warrant legal recognition (see Beaudry, 2016; Peters, 2018). However, this narrow framing does nothing to challenge the notion that life is arranged as a hierarchy. Furthermore, connecting personhood to cognitive capacities presents very real concerns for the autonomy and well-being of children and people with cognitive impairments (see Feder Kittay, 2005; Vukov, 2017). Peter Singer (1975) has proposed a similar framework in which sentience, the ability to feel pleasure or pain, is the main cognitive capacity that is considered when determining personhood. This more inclusive definition admits most nonhuman animals but is still predicated on the assumption that personhood is an internal characteristic associated with having a central nervous system. However, using the concept of lifeworld, we might ask: if we cannot know how brainless nonhumans experience their lifeworlds, how can we determine whether they have a capacity for pain, pleasure, or well-being? This second theory of nonhuman personhood is therefore premised on the fundamentally unknowable internal mental states of others.

The first two schools of thought can be described as absolute; they both conceptualize personhood as a characteristic that inheres within a being, regardless of circumstance. Whether it is a soul or a set of cognitive qualities, they are internal to a person. In contrast with this view, relational personhood is considered to be situated between persons (M. Hall, 2019; Jaworska & Tannenbaum, 2014). In other words, personhood is not *who one is*, but how one is with others; it is enacted rather than innate. From this perspective, personhood is the quality of being recognized as a consequential social actor; as someone whose needs and goals must be considered when interacting with them. Personhood in this view is intersubjective in the sense that as long as somebody sees someone else as a person, for the purposes of the social interactions between them, they are functionally a person (Taylor, 2007). Both parties participate in a "person-rearing relationship" (Jaworska & Tannenbaum, 2014), in which moral standing is a quality of the relationship between persons. Being recognized as a person affords one a

degree of agency through the respect of others. This is to say, when someone is *seen as* a consequential social actor, they are provided with more opportunities to *be* a consequential social actor. Therefore, they are more capable of exercising their personal agency and being recognized as a person by others.

Birdie, Isa, and Amber each demonstrate relational understandings of plant personhood, as evidenced in how they talk about plants. These foragers see the association of plants with ecological niches as signs of distinct personalities. For example, Isa describes plants that have strong relationships with water or fire as being resilient and generous. She describes swamp white oak (*Quercus bicolor*) as an important role model, as it survives in areas with poor nutrient availability yet produces abundant crops of acorns, which serve as food for others. Birdie speaks similarly about jewelweed (*Impatiens capensis*), who she says "really wants to have its feet in the water," although she does not seem to know about the role that jewelweed plays in the lives of other nonhumans.

In both of the above cases, the plant's relationships with others endow them with a personality, and thus with personhood. Amber further elaborates on how moral responsibility follows from social relationships among nonhumans. Amber is less concerned about harvesting mugwort (*Artemisia vulgaris*) because she knows that it is a non-native plant that has allelopathic tendencies. In Amber's own words, mugwort engages in "chemical warfare" with other plants. Because of these anti-social behaviours, overharvesting mugwort would not be as significant of a problem as overharvesting an endangered native plant. However, Amber is careful not to harvest plants, including mugwort, when they serve as habitat for insects. She sees the relationships between them as entailing a responsibility. Therefore, to disturb this relationship by harvesting the plant is to disrupt their capacity to fulfil the responsibilities that they have towards one another.

An important implication of a relational theory of personhood is that no attribution of personhood can be universal. Rather, personhood is decided from within a particular social context, from our own

human lifeworlds. For us, it is self-evident that humans are persons because we recognize that they significantly participate in our social world. No matter who they are, even though we may have no direct connection to them, we know that they are somebody's child, or that they are likely somebody's friend or acquaintance. Yet from our own lifeworld, it is not readily apparent that spiders could have a similar sociality to humans. Conversely, from the lifeworld of a spider, it is self-evident that spiders are persons. They figure prominently in this lifeworld as social actors, whether as potential mates, competitors, or collaborators. By the same token, human beings are not self-evidently social actors from a spider's perspective. Although we may tangibly affect their lives through our actions, we are more akin to wind or earthquakes – the so-called forces of nature – since we participate materially but not socially in their worlds. Recognizing sociality among lifeworlds beyond our own enables us to recognize the personhood of nonhumans. Although we may not have direct relationships with spiders, for example, we can recognize the relations they have with each other, and the dynamic sociality involved.

Importantly, in this last conceptualization of personhood nonhuman sociality is not predicated on the presence of a central nervous system. Even trees live complex social lives, as they communicate with others and shape their environments in dynamic tension with other nonhumans (see Geniusz et al., 2015; Kimmerer, 2013; Wohlleben, 2016). Quite unlike an animal whose brain has been removed, plants have never evolved to have a brain in the first place. We therefore cannot infer plant experiences from their biology through the lens of animal perception and cognition (M. Hall, 2011).

Adopting a relational view of personhood, we can understand that the question of whether nonhumans are persons is not about an innate quality they possess or not, but rather about how they interact with others, human and nonhuman. When we encounter a plant that alters the composition of the soil in which they grow, or nurtures their young by sharing resources across a fungal network (Simard et al., 1997), we are confronted with the question of whether we recognize this as a social process, or simply as mechanical actions devoid of interiority. Critics may argue that any attribution of sociality to

plants and other nonhumans is anthropomorphism (e.g. Searle, 1992), yet an alien observer could arguably analyze human sociality in terms of external stimuli and chemical signals. As organisms, we respond to our environments through our senses, yet it is also through our senses that we also experience the depth of our sociality – something that is not self-evident from outside of our lifeworld. Given that we cannot access the lifeworlds of trees, spiders, and dogs, we are faced with the decision of whether to attribute sociality and thus personhood to them, or to view them as automata that mindlessly respond to stimuli and signals. This decision is not about what nonhumans essentially *are*, but about how we think about and by consequence relate to them.

Materiality, sociality, and living-persons

Looking at relational personhood in social terms also enables a consideration of the materiality of persons. Bringing together social and ecological relations involves a shift in perspective that again challenges the conventions of human exceptionalism. Here I build upon Tim Ingold's relational "organism-person" framework, according to which persons are constituted not only through their social relations (as described above), but also through their ecological relations. This framework is further extended through Kim TallBear's critique to include non-organismic beings by centering sociality rather than cognition and suggesting a change in terminology to "living-persons." With these extensions, Ingold's framework can help understand social-ecological relations in a more expansive sense.

As demonstrated in Chapter 1, human exceptionalism has introduced a division in academia between the social and natural sciences. These "two cultures" (Snow, 1963) have adopted divergent methodological and epistemological standards, leading to a disconnect between what each group values as an explanation. This conceptual rift is clearly seen within the discipline of anthropology, where two intellectual traditions – cultural and physical anthropology – fall on either side of this chasm. Although they share a common topic space, namely the diversity of human behaviour, they disagree on how it is

best studied and how it should be explained (see Ingold, 2000). Challenging the conventional divide in his discipline, Tim Ingold developed a framework that would synthesize these two perspectives in which sociality and physicality are intimately joined. Ingold argues that human beings are inseparable social *and* biological entities; what he calls "organism-persons" (2000). Ingold defines organism-persons not as composite entities made up of separable parts, but rather "a singular locus of creative growth within a continually unfolding field of relationships" (2000, p. 5).

Drawing from ecological psychology and developmental biology, Ingold argues that the organism-person always acts in relation to others and is shaped by these relations. A human is a relational organism in that their development is guided by an ecological context. Developmental biology as a field challenges the widespread narrative of DNA as a "blueprint" or "genetic code" that contains direct instructions to make an organism (c.f. Plomin, 2018). Instead, research from this field of study details the many ways an environment can profoundly impact a developing organism. At every stage of life, encounters between organisms shape the ways in which they grow (Burggren & Reyna, 2011; Feitelson & Treinin, 2002). Likewise, ecological psychologists argue that perception and action are intricately linked, and that objects are not perceived for their abstract qualities, but for their affordances – their ability to be used towards a purpose (Gibson, 1979). Cognition does not happen separately from one's actions in the world; it is an integral part of how lives within it. Ingold (2000) draws on these two fields to argue that human physicality is constituted within the field of material relationships that constitutes their environment. Simultaneously, humans live within a set of social relations that is conventionally called "culture." Meaning, agency, and belief are all products of these social relations – whether at an interpersonal or institutional scale. However, no firm boundary can be drawn to distinguish ecological from social relations. The environment in which an embryo develops is inseparable from the social relations that shape the mother's access to food, healthcare, and money. Likewise, one's social status is often tied to physical

characteristics that have been imbued with meaning, such as skin colour. Materiality and sociality are intertwined through their influence in the development of organism-persons.

Though he does not do so himself, we can apply Ingold's theory of organism-persons to non-animals. With a slight extension – namely by replacing the notion of perception/action with that of sociality – Ingold's theory can be made to include plants and fungi. The dynamic nature of plant and fungal growth leave little doubt that they are organisms-in-the-making, changing as they participate in a diverse field of ecological relations. Indeed, plant and fungal growth is highly responsive to environmental conditions: plants' branches grow towards sunlight, their roots towards water, and their tendrils around supports (Moulton et al., 2020); fungi respond to a range of conditions in their host environment, adapting to temperature and pH, among other things (see Braunsdorf et al., 2016). However, the social aspect of Ingold's framework presents a challenge when it comes to non-animals because Ingold conceptualizes personhood according to cognitive criteria, as discussed above. He argues that nonhuman animals participate as persons in human lifeworlds because they are "endowed with powers of feeling and autonomous action" (Ingold, 2000, p. 52). However, if we adopt a broader view of sociality that admits the possibility of non-cognitive social behaviour, as elaborated earlier in this chapter, we can straightforwardly extend Ingold's framework to include non-animals. Ingold himself recognizes the sociality of nonhumans in a broad sense when he writes that human narratives are not proof of a unique capacity for sociality, but evidence that nonhumans participate as social actors in the social worlds of humans (2000, p. 52). Although Ingold might recognize social worlds as including more than humans, Ingold nonetheless chooses to conceptualize sociality as extending only as far as nonhuman animals rather than plants or fungi. If we instead recognize the sociality of plants and fungi as many writers do (e.g. Baker, 2021; Chao, 2018; Kimmerer, 2013; Tsing, 2015; Vargas Roncancio, 2017), we can understand plants and fungi as organism-persons according to Ingold's framework.

This novel framework for understanding humans and nonhumans is distinct from the many conventional frameworks that maintain the Nature/Culture division and discount plants or fungi as persons. But we might go even further to theorize a possible personhood status applicable to beings like weather and soil. As Kim TallBear (2011) cautions, much of the scholarship that intends to challenge human exceptionalism nonetheless maintains a boundary of life/non-life around organismically defined beings. Beyond animals, plants, and fungi, it is important to recognize the materiality and sociality of non-organismic beings that have conventionally been seen as non-living "forces of nature" in academia. Like the example I gave of humans and spiders, wind, rain, and rock are seen to participate materially but not socially in our lives. However, if we remain open to the possibility that they might nonetheless live socially in certain settings, we can develop a framework that admits them as active participants rather than static background. While there is already some work devoted to the study of soil as a social setting (see Salazar et al., 2020), there remains much more to be done in this area. This framework, which we might call living-persons rather than organism-persons to reflect its inclusion of non-organismal beings, can serve as a guide in this endeavour. It is based in a recognition of the materiality and sociality that makes one living on the one hand – engaged in processes of material exchange with other living-persons – and a person on the other – participating in social worlds beyond one's own.

The connection between sociality and materiality is evident in the foraging practices of participants in this study. Whether it is Isa's recognition of the generosity of swamp white oaks or Amber's recognition of the harmful and beneficial relationships that mugwort has towards other plants and insects, these foragers recognize sociality emergent from the material relationships between nonhumans. For example, mugwort has an antagonistic relationship towards native plants because it produces compounds that stunt the germination and seedling growth of other plants (Barney et al., 2005). The material relations that connect mugwort to other plants simultaneously create an antagonistic social context in which they obstruct the pre-existing relationships between native plants, animals, and fungi. Similarly, mugwort is

involved in a pro-social relationship with caterpillars, providing shelter and habitat for them (Giuliano et al., 2004). The material exchanges that connect them are also at the foundation of social relationships.

Crucially, these novel frameworks we might build – drawing from scholars like Ingold and TallBear alongside the fieldwork from this study – all privilege relationships over objects. Rather than taking the environment as "ready-made," landscapes and the living-persons who constitute them are seen as always in the process of becoming (Nietzsche, 1888). Rather than composite entities made up of separate parts, living-persons can be seen as "a singular locus of creative growth within a continually unfolding field of relationships" (Ingold, 2000, p. 4). Being, in this sense, is an open-ended and dynamic process ever brimming with potential.

Growing together and learning-in-the-world

Encounters between different living-beings provide opportunities for creative friction (Tsing, 2005). In the goal of understanding forager-plant encounters, it seems fruitful to examine how living-beings are changed by their encounters with difference. How do humans and nonhumans change when they are in relation with one another? Several theories of relationality have been advanced that each offer perspective on this question. While they all view relationships between species as sites of mutual growth, they disagree on the extent of these changes. Anna Tsing builds off of these theories of relationality with her concept of contamination, helping us incorporate a temporal dimension to innovative frameworks on personhood. For Tsing, every living-person carries within them a history of encounter that they bring with them wherever they go. This embodied history can be understood materially through the concept of habit-forming. The process of learning and losing habits can be seen in terms of a "dance of agency," once more demonstrating how more-than-human sociality is involved in the material changes undergone by humans and nonhumans alike.

In the field of animal studies – and more recently in multispecies ethnography – there has been a great deal of attention to the relationships between humans and nonhumans. Conventionally, academics have argued that this relationship is one of mere utility. In this view, Man uses nonhumans for his own needs and desires (e.g. Wolloch, 2012). Donna Haraway (2003, 2008) has challenged this orthodoxy, highlighting instead the myriad ways in which humans and animals – in particular dogs – have been reciprocally changed over the course of their evolutionary histories, becoming "companion species" to one another. The concept of companion species is very helpful towards understanding the coming together of species at an historical scale, yet due to this focus on co-evolution, it is best suited for the study of long-term processes such as domestication. At an interpersonal scale, there are several other concepts which can lend insight to the connections that are formed between humans and nonhumans when they encounter one another. Specifically, two cognate concepts are well attuned to the interpersonal scale of human-nonhuman encounter: "becoming together" and "being alongside."

The first concept, "becoming together" (Despret, 2004), speaks to the creative growth of living-persons as they share the same environment – or, socio-ecological relational field – for lengths of time. Together, they are influenced by one another, and form habits that take each other into account, learning how to live in each other's presence. Significantly, the perspective of becoming-together is grounded in the co-presence of two living-persons in a shared environment. This directs our attention to the ways in which the relationships between living-persons are mediated by their combined alteration and/or adaptation to a dynamic environment. For example, a bacterium that excretes lactic acid, and therefore acidifies their environment will have a profound effect on other organisms who share this environment, who may be more or less tolerant of acidity.

The second concept, "being alongside" extends the perspective of "becoming together." They differ primarily in the extent to which mutuality is assumed. From his own experience transitioning between these two perspectives, Tironi (2020) notes that "becoming together" does not capture the

refusal of sociality that characterizes certain non-cooperative landscapes. Instead of "becoming together," then, we might think of human-nonhuman relations through the lens of "being alongside" (Latimer, 2013). This perspective is far more ambivalent than its predecessor, for although it maintains its emphasis on mutual growth and change, it adopts the view that interactions between species are often characterized by partial and intermittent connections. The term encounter encapsulates the sporadic nature of these connections. Instead of two distinct entities merging into a hybrid (as the notion of companion species might suggest), this perspective maintains that it is important to attend to the ways in which each entity remains distinct, even as they grow together in some ways. Put otherwise, humans and nonhumans may each grow together as they cohabit an environment, each becoming something new, but they do not become the same, nor do they form a hybrid. We can see this in terms of partial and temporary alliances or antagonisms, where certain interests are temporarily in alignment or at odds.

Anna Tsing further enriches the study of human-nonhuman connectivity through the addition of a temporal dimension. Tsing's (2015) concept of "contaminated diversity" provides a lens through which to see the lasting effects of collaboration across difference. Tracing the partial affinities of humans, matsutake, and pine trees, Tsing richly details the histories of entanglement and contamination that have shaped diverse physical, cultural, and economic landscapes. Humans, matsutake, and pine trees all have very different ways of living in the world, yet they jointly create environments in which they all can thrive. For example, Tsing describes how groups of volunteers in Japan are revitalizing traditional land-use practices including soil scraping that create pine-rich forests in which matsutake abound (2015). Although she focuses on multi-species collaboration, we can approach Tsing's discussion of contaminated diversity through the lens of "being alongside." If we consider not only collaboration, but also conflict and tension, we can see that every encounter in a given landscape results in contamination. Therefore, every living-person carries with them a history of contamination. As Tsing puts it, "purity is not an option" (2015, p. 27). As living-persons move from one encounter to the next, they grow and change; they also bring their

histories of contamination along with them, which shapes how they encounter others. Recognizing the history-in-the-making of contaminated diversity, we can better understand the encounters between those foragers and plants studied in this project.

Living-persons are changed by their encounters in the process of contamination, and this change is embodied, literally carried in the body, as it influences a person's future interactions. This embodied change can be understood with the concept of habit-forming. Habits have an important bearing on how we perceive and act in the world, yet they are mostly unconscious. They are formed emergently, through a dynamic feed-back and feed-forward of a self in an environment (Ingold, 2007). Isa acquired new habits through her experience harvesting nettles and eating dandelion greens. Although at first the nettle stings were painful, she told me that she grew to not mind and even sometimes enjoy the feeling. She had a similar experience with dandelion greens. Although she found them distasteful at first, Isa quickly warmed to the slightly bitter taste of the leaves. Now she finds that she craves dandelion greens when they are coming into season.

Habits are not unique to humans; other living-persons adopt habitual patterns of perception and action (Ingold, 2000, p. 349). Even at a most basic level, the self-organizational tendencies of matter – such as the crystalline structure of frozen water – are at the heart of the regularities we experience in the world (Kohn, 2013, p. 59). Eduardo Kohn suggests thinking about growth in these terms, as the process of acquiring and selectively discarding habits (2013, p. 63). Seen in this way, growth (always in an environment) is about adopting and keeping habits that are responsive to the habits of others. Learning to adapt to others' habits is a dynamic and reciprocal process, described by Andrew Pickering (2013; Pickering & Guzik, 2009) as "dances of agency." This process involves continually weaving between periods of action and periods of attention in which the dancer listens for a response to their actions. By noticing how others respond to their actions, the dancer learns to recognize the habits of others, and eventually adopt habits that take these into account. Altogether, we can understand encounters between

foragers and plants as partial and intermittent connections through which all parties develop habits that are responsive to one another's habits.

Image 4.1: A patch of yarrow (Achillea millefolium) *that Birdie had been harvesting from.*

Amber illustrates the process of developing habits through dances of agency. Her experience harvesting nettles and caterpillars (see Chapter 3) demonstrates how she has changed in response to the habits of the nonhumans she encounters. Although Amber had some preconceived ideas about nettles – namely that it would be fine to harvest them even when they were in bloom – her assumptions were proven to be mistaken when she found the caterpillars that fell out of the nettles she had harvested. Following this experience, she started checking every plant she harvests for insects, developing a habit of being aware and responsive to plant-insect relationships when she is harvesting plants. However, being partial and intermittent, encounter does not always result in change. Birdie exemplifies this with the relationship she has with yarrow. When I spoke with her, she had spent months on and off trying to figure out how to harvest yarrow in a way that would promote regrowth and maximize her yield. She told me that she was aware that different patches that she harvested from were recovering at different rates, but she was having trouble figuring out why this was the case. Unlike dances of agency, which would involve a period of observation and adjustment, Birdie kept harvesting yarrow haphazardly. Birdie's experience

with this plant demonstrates that attentiveness is an essential part of acquiring mutually responsive habits.

Summarizing the framework

Image 4.2: A patch of poison ivy (Toxicodendron radicans) along a recently disturbed forest path.

We can illustrate the framework that I sketched out above by analyzing an example from my conversations with Isa in which every aspect of this framework is clearly present. When we were walking along the river, Isa told me about her approach to teaching the children at her daycare. When they go for walks through the woods, she shows the children poison ivy growing along the path. She tells them that poison ivy is protecting the forest by telling them not to walk there. Isa recognizes that the human experience of poison ivy is not universal – while it can be harmful to humans, it is beneficial for other plants or animals who depend on the plant in other ways. Isa recognizes poison ivy as a person because of how they interact with others. Although Isa may not believe that poison ivy is a conscious being with whom she can directly communicate (Chapter 3), she nonetheless recognizes that this plant helps the forest through its material and social relations with others. Poison ivy famously has the habit of causing contact dermatitis. When humans come into contact with the plant, they will often develop a severe rash. Most humans will have learned about this habit: either through direct experience, or by hearing stories of others who have been affected by this plant. As a result, humans adapt their own habits to avoid contact

with the plant. Therefore, when poison ivy is growing in disturbed areas – another habit of theirs – they discourage most humans from walking through an area. Poison ivy's material relations with humans, plants, and soil engender social relations, in which they act as protectors towards the nonhumans in the forest. This example demonstrates how personhood is a result of the complex relations between living beings. Even in the absence of conscious intent, the habits and growth of humans and nonhumans alike create a sociality that extends beyond species boundaries.

From personhood to nationhood

Having sketched out relational theories of personhood, contamination, and encounter, we can finally turn to the ethics of human-nonhuman encounters. Ethical subjectivity is traditionally reserved for those whom we grant personhood, or belonging to our moral community (Feder Kittay, 2005; Ikäheimo & Laitinen, 2007). Those not given personhood are also beyond moral consideration. With a recognition of living-personhood as an enacted process of being in the world, one that can result in tension as well as collaboration, we can examine the ethical implications of admitting nonhumans into our moral communities. Furthermore, given the material and social dimensions of living-persons, what implications might result for how we interact in our physical environment writ large?

Thinking of nonhumans in ethical terms, we are confronted with several key questions. How should we think of them? Do they have individual or collective rights? What kind of collectivity should we consider: species, community, or nation? All these questions have consequences for how we act towards nonhumans. Drawing on the insights from this chapter thus far, nonhumans can, and I would argue should, be thought of as persons. This personhood is grounded in sociality rather than cognitive ability – it is based in a recognition of the relationships living beings have with each other. The question of whether to consider nonhumans as individuals or as a collective is a matter of debate, but there are strong arguments

for recognizing collective rights. The concept of nonhuman nationhood allows us to deepen our understanding of human-nonhuman ethical relations in a collective sense.

There are several approaches to understanding nonhuman collectivities. Perhaps the most widely held view of nonhuman collectivity is that of species. However, if we try to understand collectivity in this way, we inherit the problems associated with defining species in the first place. Although some species may be clearly differentiated, there are countless circumstances in which the boundaries between one species and another are rather fuzzy (Lim et al., 2012; Robert & Baylis, 2003; Sukumaran & Knowles, 2017). In our present moment, taxonomists tend to think about species and biodiversity in terms of DNA. This reduces living-persons to the DNA in their cells, denying their participation as social agents in their own lifeworlds. In contrast, ecologists have developed a different way of conceptualizing groups of nonhumans through their notion of communities. This term is commonly employed to refer to groups of organisms who tend to live together in a given environment (P. J. Morin, 1999). For example, we can think of a community of wetland plants and the other nonhumans that live among them, or of a coastal community. Each of the members of these communities are adapted to living under certain environmental conditions and have mutually adapted to each other's presence.

The concept of communities grounds the collectivity of nonhumans in concrete material relations, rather than an abstract notion of genetic belonging. Nonhuman communities also often include more than one species, highlighting the ecological relationships that make these places habitable for a group of living-persons. However, thinking in terms of nonhuman communities can sometimes be a limiting framing, as it only considers those who are present in a physical location. The concept of nonhuman nationhood bridges these two perspectives, both recognizing the concrete individual and collective interests of nonhumans in a given place while recognizing them as belonging to a larger collectivity. The concept of nonhuman nationhood connects communities across territories who share common features and interests.

My use of the idea of nonhuman nationhood is inspired by authors such as Leanne Betasamosake Simpson, Robin Wall Kimmerer, and Mary Siisip Geniusz. Each of these Anishinaabekwe authors have different understandings of nonhuman nationhood, yet they all speak to mutually beneficial relationships with nonhumans in which all parties' sovereignty and autonomy are respected and maintained. Simpson understands human-to-nonhuman nation relations in terms of treaties. In contrast with the treaties signed by the Crown, Simpson asserts that Nishnaabeg[3] understand treaties as mechanisms through which to maintain strong and healthy relationships (2011, p. 106). As an example, Simpson recounts how the fish clans of the Michi Saagiig Nishnaabeg met with the fish nations twice a year for thousands of years at *Mnjikanming* (2011, p. 109). It was through this regular diplomacy that the Nishnaabeg developed the protocols needed to live well with the fish nations. Simpson is clear that nonhuman nations are to be engaged with politically, like human nations.

The implications of this perspective are illustrated in a story that Mary Siisip Geniusz shares about her mentor, Keewaydinoquay (2015). Keewaydinoquay, who went by the name Kee, once spent a winter alone on *Minis-Kitigaan*, or Garden Island, in what is now called Lake Michigan. She was injured and, with no recourse to help from the mainland, had to treat her broken leg on her own. Kee used some dried boneset (*Eupatorium perfoliatum*) she had with her, and then harvested all the boneset she could find on the island so that she could survive until she could receive medical attention. However, she knew that she was incurring a debt by harvesting all of the boneset, so once she got better, she spent the rest of her life sowing boneset on the island (Geniusz et al., 2015, p. 22). Kee's behaviour in this story carries many important lessons about how to ethically engage with nonhuman nations. The debt Kee incurs is not only towards the individual boneset plants she harvested from the island, but to the entire Boneset Nation

[3] In this instance, I am using the spelling preferred by Leanne Betasamosake Simpson. It is also commonly spelled Anishinaabeg, which I use elsewhere in this thesis.

who was trying to become established on *Minis-Kitigaan*. By harvesting boneset in her time of need, Kee entered into a relationship with Boneset Nation in which she had obligations towards them for the sacrifice they made to save her life.

Another example that illustrates the larger-scale implications of thinking of nonhuman nationhood comes from Robin Wall Kimmerer (2013, pp. 167–174). Kimmerer reflects on the contributions of the maple trees to her community in upstate New York. Although many of the locals may not realize it, these trees provide enormously for the comfort and quality of their everyday lives. In recognizing these contributions, Kimmerer finds herself wondering how those in her community should give back. Part of living well within Maple Nation means receiving their gifts with gratitude and doing one's best to return the favour. Kimmerer notes that being a part of Maple Nation has consequences beyond simply being grateful for maple syrup. With climate change, the regeneration of maple forests is being threatened, and with encroaching insects and diseases, it is likely that oaks will replace maples as their ranges shift northwards. For Kimmerer, it is the responsibility of people in Maple Nation to stand up and take action when issues such as climate change threaten the continuance of their community.

As illustrated in these examples, there are divergent perspectives on what nonhuman nationhood means. Kimmerer sees nonhuman nationhood as inclusive of other species, including humans. She conceptualizes nonhuman nations similarly to the forest typology system commonly used among ecologists (Sims et al., 1989). According to this system, regions are defined by the major groups of trees that commonly grow together and shape the various plant, animal, and fungal communities in their area. This means that humans who live in maple-dominant forests are members of this community, and consequently have a role to play within it. Alternatively, Simpson uses the term Nation to refer to autonomous and sovereign nonhuman collectivities. While they may live in community with each other, every nation is understood to have distinct interests, and relationships must be established and maintained independently between each nation.

Whether we understand nonhuman nationhood as including humans or not, each of the perspectives outlined above implies that humans have obligations towards the other living beings with whom they make their lives. These living beings are not only individuals valued for their ability to feel pain or pleasure, but members of collectives who have overarching interests that deserve respect. An important implication of viewing nonhuman nations as political entities is that they are beneficiary to treaty rights. So-called "resources" must be respected for their own sake, first of all, and for the sake of other nations with which there are treaties. Taking more than an allowed share, or corrupting the resource are both violations of treaties with nonhuman nations, who have their own needs for these resources. When making treaties with nonhuman nations, humans therefore gain certain rights of use and enjoyment of certain resources, while being bound by obligations towards maintaining the strength of the political relationship between nations. Thinking of nonhumans in this way provides an opportunity to develop political theory for human-nonhuman relations, like that of Leanne Betasamosake Simpson. Perhaps in the future, we may see political studies departments devoted to nonhuman political theory. In the meantime, this chapter hopefully provides an invitation to consider the interests of nonhumans more expansively than most debates about nonhuman personhood have so far permitted.

Conclusion

Any attempt to understand ethical relationships between humans and nonhumans first must account for the undercurrent that shapes how we understand each other (Ermine, 2007). In this case, human exceptionalism is an important part of this undercurrent. It has shaped conventional understandings of personhood (as belonging to beings with souls, or animals with certain cognitive functions), sociality (as between two semiotically communicative subjects), ecology (as non-social), and ethical subjectivity (as individual).

In this chapter, I unpacked these assumptions and suggested alternatives. First, I introduced the concept of lifeworlds – the distinct worlds of perception and action inhabited by living beings. Next, I elaborated a relational view of personhood in which it is sociality – being recognized as a social actor – that determines belonging to a moral community. I then extended the notion of personhood through Ingold's "organism-person" framework to develop an understanding of living-persons as embedded in simultaneously social and material relations with one another. Building on theories of relationality, I emphasize the need to study interactions between living-persons as encounters: sporadic, intermittent, and partial connections. Through encounters, living-persons become contaminated by one another. In other words, they learn to notice each other's habits and respond by changing their behaviour. Over time, these changes in behaviour become sedimented into habits of their own.

Considering nonhuman personhood and relationality in this way, we can gain a clearer sense of ethical relations between humans and nonhumans. Drawing on the work of Anishinaabekwe authors, I advanced their concept of nonhuman nationhood as a possible ethical framework through which to approach human-nonhuman interactions. There are many important implications to thinking in these terms, particularly as it relates the ethics of foraging. These will be expanded upon in the next chapter.

Chapter 5 – Summary and future work

Significance of this project

We live in a time of ecological precarity, besieged by crises of ongoingness (Haraway, 2016) that threaten the continued habitability of Earth, our home. Critical scholars of the Anthropocene have argued that these contemporary crises are the result of a centuries-long relationship of domination towards "Nature" wherein we have viewed nature as a resource to be exploited; this extractivist view has been institutionalized and embedded in the very foundations of the global economy. Extractivist relations of domination are themselves underpinned by the ideology of human exceptionalism, which assumes that human beings have a privileged status in relation to nonhumans. This ideology has significantly shaped much popular but also academic thought, such that basic divisions between human and nonhuman, mind and body, and culture and nature have come to structure many mainstream theoretical currents.

These aforementioned dichotomies have resulted in considerable oversimplifications, meaning that it is both intellectually and ethically imperative to develop an alternative to the orthodoxy of human exceptionalism. Thinking through and beyond human exceptionalism demands a dissolution and reintegration of these dichotomies, a theoretical commitment to what Donna Haraway would call "naturalcultural" thinking – theory that does away with the firm and impermeable boundary between "Nature" and "Culture" that has long characterized academic thought. In this thesis, I have drawn inspiration from naturalcultural thinking to theorize an ethical framework for relations between humans and nonhumans; this framework also helps us understand my experiences in the field interviewing and observing foragers in the process of building ethical relationships with plants.

This research project adopted multispecies ethnography as its methodological approach, which allowed me to see how foragers develop ethics towards nonhumans in practice. This work involved field visits with participants as they told stories about plants, interacted with them, and harvested some of

them. Furthermore, after the interview phase, I studied the plants that my participants told me about and watched as they developed throughout the next growing season, in some cases harvesting them myself.

This research project involved recreational foragers in the Ottawa/Gatineau region because they were involved in direct and sustained interaction with plants on a regular basis. Since this research was conducted in a metropolitan area, I was able to recruit participants who had not grown up in direct and frequent contact with plants, but who are currently in the process of building and deepening these relationships. I was therefore able to observe these foragers while they were in the process of figuring out how they should ethically act towards plants. By interrogating these emerging ethics, I was able to gain deeper insights into the process through which foragers learn how to be in a good ethical relationship with plants. The questions and concerns that foragers raised with me throughout this process came to inform the structure and content of the theoretical framework that resulted from my fieldwork.

Summary of research findings

Throughout my fieldwork, I spent time with foragers as they harvested plants and told me stories about them. Through analyzing these interviews and field notes, I gained insight into the relationships these foragers were developing with plants, and of the strategies through which they built these relationships. Overall, I found that not everyone I spent time with was concerned with the ethical implications of foraging. Of those who did intentionally think about their practice in ethical terms, everyone expressed a desire to build strong and resilient relationships with nonhumans. In this thesis, I propose a tentative distinction between extractive and non-extractive foraging to reflect these two approaches. However, as this was not the central focus of my research project, this distinction is not characterized in depth. Instead, I focus on how foragers interact with plants on a regular basis and how they learn how they should act towards them.

A major finding from this research is that the forager's perceptions of – and thus behaviour towards – plants are strongly shaped by their prior experiences, either directly with plants or with stories about plants. Foragers who perceived plants as complex and dynamic living-persons in turn adopted a more intentionally ethical approach towards them. Foragers like Isa and Amber, who had a strong awareness of the ecological embeddedness of plants, considered their decisions about when and how to harvest very carefully. In contrast, foragers who did not notice the interconnections between plants and other nonhumans did not attribute the same weight to their actions. For the foragers in this study, it always matters when and how a plant is harvested. For some, this is because the food or medicine would be of lesser quality, whereas for others, improperly harvesting a plant is also seen to cause undue harm. The lives and habits of the foragers in this study therefore changed in response to the habits of the plants they harvest. The timing of their lives is governed at least in part by the timing by which plants emerge and ripen.

Theoretical contribution and implications

In Chapter 4, I brought my experiences in the field into conversation with the work of previous academics to interrogate notions of personhood, sociality, materiality, and relationality. The outcome of this process is a theoretical framework in which *living-persons* (both human and nonhuman) can be viewed as beings constituted simultaneously by their social and material relations to one another. As an extension of Tim Ingold's (2000) theory of "organism-persons," the novel framework of living-persons presented in this thesis similarly includes both humans and nonhumans within one analytical framework – one in which socioecological relations are of primary importance. However, the framework I forward in this project differs from Ingold's primarily in its assertion that social relations ought to be understood in terms of sociality rather than cognition, owing to the centrality of sociality within relational theories of nonhuman personhood. Having defined humans and nonhumans as living-persons, my framework further describes interactions between humans and nonhumans in terms of *encounter*; partial and intermittent

connections through which some differences between entities are temporarily bridged, but many nonetheless remain. Through encounters across difference, humans and nonhumans continually undergo change, or *contamination* – they are each mutually influenced by one another and carry these changes with them across new encounters. Through encounter, humans and nonhumans alike develop *habits* that reflect their experiences with one another.

The "living-persons" framework that I developed through this research has several implications towards ethics and political theories that involve nonhumans. Among these implications are an expansion of the concept of personhood, a recognition of nonhuman ethics as a practical matter, and a call for a new kind of environmental political theory: first, according to a relational view of personhood, every being with whom we interact socially is a person. Therefore, beings who are not widely recognized as persons might nevertheless be persons if they are understood to exist in a context where people interact with them socially. Furthermore, we may be indirectly connected to living-persons with whom we do not directly interact socially, but who have social relationships with others who we recognize as social persons. An acknowledgement of this mutual sociality raises the question of whether we have obligations towards these persons to whom we are not directly connected? This is a question to take up in future research.

A second implication of the framework I have sketched in this thesis is that ethics is a practical matter quite unlike classical ethical frameworks which are based upon universal moral theory (c.f. Kant, 1781; Mill, 2003). Owing to the situatedness of human ethics within a more-than-human world, we cannot as humans devise a universal environmental ethic. Our notions of what constitute harm or wellbeing are situated within our own perspective as humans. It takes deliberate, practical effort and time spent attentively engaging with nonhumans to learn to recognize what constitutes harm and well-being from within their own lifeworlds. Such a practical ethics might involve "dances of agency" (Pickering, 1995), or other methods of listening and responding to nonhumans as they are, in particular situations and contexts of relation.

Finally, as the broadening of personhood at the core of this framework results in a dramatic extension of who counts as a person, it raises the need for an environmental ethics that is premised upon near-universal personhood. An example of such an ethics can be found in the notion of nonhuman nationhood, as described by Anishinaabekwe authors (Kimmerer, 2013; Siisip Geniusz, 2015; Simpson, 2011). Given that nonhumans have concerns and interests that are independent of our own, environmental ethics is seen from this perspective as akin to a political theory of human-nonhuman relations. Furthermore, from this perspective our existing environmental political theory is found wanting, as it should not only be concerned with political agreements *about* the environment, but also *with* the environment (or rather the many nonhumans that constitute what we broadly refer to as "the environment").

Future directions

This thesis joins several ongoing conversations about human exceptionalism, multi-species relationality, and environmental ethics. Beyond this initial incursion, this project would benefit from further research and refinement. Nonetheless, what I present here offers an understanding not only of a particular subset of the foraging community around Ottawa, but also a novel framework through which to reinterpret human-nonhuman ethics.

The framework developed in this thesis is built on limited fieldwork featuring a small number of participants, mostly white lower middle-class women. Further research which engages a greater number and variety of foragers is warranted in order to make this framework more representative of the diverse people who forage in the Ottawa/Gatineau region or in other contexts. Additionally, more research might build from the framework I develop and apply it to other situations than foraging – those in which humans and nonhumans are nonetheless closely and directly involved in each other's lives. This might include activities such as hunting, fishing, gardening, horticulture, or scientific research involving nonhumans.

A significant, yet underdeveloped finding of this research project was the observation that not all foragers approached foraging with a view towards the impact of their practice on nonhumans. I proposed a tentative distinction between two approaches that I observed, which I called “extractive” and “non-extractive” foraging. I believe that our understanding of foraging would benefit greatly from research specifically designed to interrogate this distinction. Firstly, to test this novel theorizing and determine whether the distinction I drew from this study’s empirical material exists more broadly, and second, to understand it in greater depth. This would include asking how and why people forage in one way or another, and whether and why they transition from one approach to foraging to another.

As noted above, this thesis also raises implications about the grounded practicality of human-nonhuman ethics. Future work might study environmental ethics through the lens of practice theory, considering the ability to recognize harm and well-being among nonhumans as a skill that is developed through practice. Furthermore, this thesis also draws a connection between human-nonhuman ethics and political theory, arguing that political mechanisms for environmental justice should also recognize the interests and lifeworlds of nonhumans as political actors.

While there remains a great need to develop naturalcultural theory across academic disciplines, this thesis joins existing work in this vein from within sociology and anthropology. The framework I have developed in this thesis provides an entry point into the naturalcultural study of foraging, and of human-nonhuman ethics more broadly.

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