

**Bodies, Land and Instagram: Networked Foraging
and Infrastructural Media in the United States**

By

Emily E. Grandjean
B.A. Economics, Wellesley College (2015)

Submitted to the Program in Comparative Media Studies/Writing in partial
fulfillment of the requirements for the degree of

Master of Science in Comparative Media Studies

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Abstract

This thesis examines the ways in which people in the United States use social media applications to learn about, practice, and share their experiences of foraging. Through an exploration of the histories of the U.S. high-tech industry and federal land ownership and private property systems, I discuss how colonial, capitalist, patriarchal, and white supremacist logics converge as an ecological regime that exploits bodies and land, accruing power to wealthy, white people and corporations. Acting within this ecological regime, networked foragers use a variety of technologies and techniques to orient themselves within their local environment and develop group-based “skilled vision.” Some networked foragers use their bodies and foraged foods as biotechnologies with which to intimately connect with the land, develop new relationships, and maintain local ecosystems. At the same time, the learning process for some networked foragers may be limited by Western, colonial scientific perspectives and “expertise.” I observe that online interactions may, in some cases, foreclose difficult but generative conversations about foraging ethics and the needs of more-than-human forms of life. Finally, I find that social media platforms may encourage a networked foraging culture of spectacle, entertainment, and consumerism, and discourage the interlinking of foraging with politics and ethics.

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We were made to understand it would be
Terrible. Every small want, every niggling urge,
Every hate swollen to a kind of epic wind.
Livid, the land, and ravaged, like a rageful
Dream. The worst in us having taken over
And broken the rest utterly down.

A long age

Passed. When at last we knew how little
Would survive us—how little we had mended
Or built that was not now lost—something
Large and old awoke. And then our singing
Brought on a different manner of weather.
Then animals long believed gone crept down
From trees. We took new stock of one another.
We wept to be reminded of such color.

“An Old Story” from *Such Color: New and Selected Poems*. Copyright © 2021 by Tracy K. Smith. Used with the permission of Graywolf Press, Minneapolis, Minnesota, www.graywolfpress.org.

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Chapter 1

Introduction

During the first year of the COVID-19 pandemic in Southern California, people flocked to the shoreline to frolic and forage in shallow tide pools. During a time of widespread upheaval, foraging—generally understood in the U.S. as the practice of gathering foods, medicines, and other useful materials outdoors—surged in popularity. Some people reportedly left the tide pools with plastic trash bags bursting with mussels, while others carried home handfuls of starfish (Sahagún 2020). Near the tide pools in San Pedro, an unemployed casino worker told a reporter that foraging was “a fun way to spend the day and grab a free dinner. Especially for those of us who lost jobs because of the coronavirus pandemic” (Sahagún 2020). The worker scanned the tide pools, searching for things to eat, alongside about thirty other people. State game warden Doug Wall, who had patrolled this area in San Pedro for two years, remarked, “I’ve never seen so many people combing these tide pools for food” (Sahagún 2020).

Discussions and heated conflicts emerged online over foraging rights. A representative of the California Department of Fish and Wildlife observed, “There [have] been a lot of postings on social media... saying to come down to this tide pool area and that the resources are endless and plentiful” (Sweeney 2020). Meanwhile, the surge in tide pool foraging activity attracted the attention of people concerned about the intertidal ecosystems. These people, too, turned to social media as a tool for spreading the word. In mid-July, a person based in San Pedro identifying themselves as Marisa V (2020a) launched a Change.org petition to make the San Pedro tide pools a “No Take Marine Preserve Area”

which would prohibit removing marine life. The petition gained 600 signatures in its first 24 hours (V 2020b).

When I first read about the tide pool foragers in Southern California, I was temporarily living in Los Angeles with my partner's family. Foraging, I had noticed, was a *thing* in California. My mother-in-law's caregiver Connie often gathered rosemary from the back yard to use in her cooking. I heard stories of people stealing avocados off of trees on private property. On walks around Pasadena with my partner Tom, I felt a deep longing to reach my hand into tree crowns bursting brightly with lemons and gather an armful of fruit to take home. Around this time, foraging was becoming a trendy subject online. I noticed one person, in particular, who was becoming famous for her foraging content on social media.

Alexis Nikole Nelson, also known as @BlackForager, rapidly accumulated followers on Instagram, Facebook, and TikTok over the course of the pandemic. Nelson originally began to attract attention in March 2020, when she posted short video clips of local plants and a color-changing syrup made with violets that she had foraged in her Columbus, Ohio neighborhood (Nelson 2020c). Not long after posting the video, Nelson was surprised to find that it had been viewed on TikTok around 40,000 times—a large number, considering that she had less than 1,000 followers at the time (Moseley 2021).

Although I was raised outside of Columbus, not far from where Nelson lives, I didn't know the plants in my neighborhood nearly as well as Nelson did. I was enchanted by the ornamental (and invasive) Bradford pear trees lining my street that bloomed in popcorn-like bursts every year, and I knew the names of a handful of the flowers and herbs my mother grew in our garden. However, I had no idea what else grew beyond the limits of our quarter-acre property in the suburbs. Today, I still know very little about my local ecosystem in Cambridge, Massachusetts, partly because I can get everything I need

from local stores and e-commerce sites. Nelson's playful and educational foraging content inspired me to attend more carefully to the other forms of life in my neighborhood. Her social media posts seem to have touched many others, too. As of the time of this writing, Nelson has accumulated nearly five million followers across TikTok, Instagram, YouTube, Facebook, and Twitter, and her work has been featured in *The New York Times*, NPR, and *The New Yorker*, among other media outlets.

As @BlackForager, Nelson's videos became highly popular at an important historical moment when people around the country were struggling with a global public health crisis, facing widespread food insecurity (Balch 2020), and also protesting against systemic racism. By early June, the #BlackLivesMatter movement had reached a new peak, when between 15 to 26 million people in the United States participated in protests against the murders of George Floyd, Breonna Taylor, and Ahmaud Arbery (Buchanan, Bui, and Patel 2020). Mass protests also emerged in response to other tragic and enraging manifestations of systemic racism, including an incident in which a white woman named Amy Cooper filed a false police report against Christian Cooper, a black birdwatcher in Central Park (Ransom 2020). Amidst these events, Nelson tagged some of her foraging videos with #BlackLivesMatter, indicating that her content was intended to be not just educational, but also connected with the broader protest movement (e.g., Nelson 2020a, Nelson 2020b).

Nelson's social media presence as @BlackForager took on a political stance not only in relation to the #BlackLivesMatter movement, but also in relation to the history of slavery in the U.S. In February 2021, during Black History Month in the U.S., Nelson (2021a) posted a video in which she explained that black people in the pre-Civil War era had often relied on foraging for sustenance. Once slavery became illegal and black people were freed from forced labor on the plantations, new laws restricted

their foraging rights, often forcing them to return to work on plantations in order to earn a living (Nelson 2021a). Over time, Nelson (2021a) claimed, black people “collectively forgot” how to forage.

Reflecting on her own motivations for foraging, Nelson (2021a) said:

For me, foraging as a black woman is an act of rebellion through restoration of knowledge. Too often, people of color put their hands to the earth to support others. It is an act of justice to put our hands to the earth to support ourselves.

As a black woman in the U.S., learning how to forage was simultaneously empowering to Nelson and an act of justice. Foraging was a way of reclaiming the right to care for herself and, in doing so, contribute to restoring the relationship between black people in the U.S. and the land.

Nelson’s @BlackForager presence on social media was intended to demonstrate that black people, as much as anyone else, had the right to safely and joyfully access and forage on land. Nelson recognized that she was one of relatively few black people active in digital foraging spaces (Ward 2021). Even by mid-2021 when Nelson had already amassed millions of social media followers, she noted that she still didn’t see many other black foragers (Ward 2021) Furthermore, Nelson noted that in her experience, she tended “to incur skepticism a lot more than some of my delightful white peers” (Ward 2021).

Nelson’s experience, as well as the experiences of many other black people—including Ahmaud Arbery, George Floyd, and Christian Cooper—and people of color in the U.S. suggest that systemic racism continues to influence who has safe and pleasurable access to the outdoors. Although the U.S. may, to some, appear to support social justice and equity more than ever, racism and other forms of discrimination remain prevalent even as they change forms. As Losurdo (2011) observes, U.S. liberals have often acted in ways contradictory to their purported values of freedom, equality, and justice.

Although human chattel slavery may no longer be legal in the U.S., the enslavement of black people gave way to post-Civil War white supremacist terrorists and Jim Crow laws in the South, which later gave way to coded racism and the prison-industrial complex (Alexander [2010] 2020; Losurdo 2011). Today, when “existing while black” is a dangerous and even life-threatening proposition, merely walking outside can be a radical act.

For black people, as well as other historically marginalized groups including (but not limited to) women, LGBTQIA+ people, people of color, and Indigenous peoples, restoring one’s relationship to land can be politically profound in many ways. In the U.S., land access and ownership has historically been severely limited or denied to people who were not affluent, cisgender white men (Erickson and Mortimer-Sandilands 2010; Pulido 2017; Horst and Marion 2019). In recent years, political activists such as the “professional homosexual,” environmentalist, and drag queen Pattie Gonia (2022) and Leah Thomas, founder of The Intersectional Environmentalist Platform, have worked to make the outdoors and environmentalism more inclusive. Their acts against the logics and legacy infrastructures of centuries of settler colonialism, racial capitalism, and heteropatriarchy.

Against this historical backdrop, the confluence of these recent events—conflicts over tide pool foraging in Southern California, observing people in my own community foraging, and @BlackForager’s rapid rise on social media—sparked my interest in foraging as a subject of research. The more I read about the history of foraging and land rights in the U.S., in addition to media theory and media history, the more questions arose in my mind about the political, social, and cultural implications of contemporary foraging practices that involve digital technologies. These questions generally fell under one broader question: How do people use digital media to learn about and practice networked

foraging, and how do these practices differentially value and affect human and more-than-human bodies and landscapes?

As a white, American, cisgender woman, this research project relates to my interest in promoting social and environmental justice and learning how to be a good ancestor (Hausdoerffer et al. 2021). Conducting this research has helped me to recognize and interrogate the ways in which I have been socialized into capitalist, settler colonial, white supremacist, and heteropatriarchial systems. Throughout this process, I have reflected on Anishinaabe elder Michael Dahl’s question, “*What Kind of Ancestor Do You Want to Be?*” (Hausdoerffer et al. 2021, 1, emphasis in original). Inspired by this question, I attempt to highlight in this thesis the infrastructures and values that influence human relationships within the “more-than-human” world (Whatmore 2006), with consequences that may affect future generations. By drawing on the wisdom and scholarship of an intersectional group of people to critique these infrastructures and values, I hope this thesis contributes in one small way to transforming the production and dissemination of knowledge in the academy as well as within and beyond networked foraging communities, which the next section will define.

Theoretical approach

In this thesis, I use the term “networked foragers” to refer to people using social media and other digital technology to learn about foraging, engage in foraging, and discuss and share their experiences with others. This use of the term “networked” follows Tufekci’s (2017) use of the term in the context of studying networked protest movements—activist movements and publics that assimilate the use of digital technologies and depend on them to achieve their goals. Although humans have been foraging

since time immemorial, the use of digital technology for foraging-related practices and communication is a relatively new phenomenon that this thesis explores, with a particular focus on networked foragers based in the U.S.

The media theorist and historian John Durham Peters (hereafter, “JDP”)¹ offers an approach to thinking about media that is particularly useful in the context of foraging. Within the field of media studies over the past twenty years or so, there has been a shift away from studying textual and representational “content” and “meaning” (such as the content and semiotics of television shows, advertisements, and Facebook posts) to engaging with “a broader array of media-related objects, practices, and formations” (Parks 2020). One outcome of this shift has been a growing literature of media ecology and environmentalist media research, which Parks (2020) links to JDP’s recent work on environments as media. In his recent book, *The Marvelous Clouds* (2016), JDP revives the Aristotelian notion of media as “things in the middle” by developing a framework of infrastructural media, which builds on the work of Marcel Mauss, Harold Innis, and Friedrich Kittler, among other scholars. In this view, media are “enabling environments” that nurture many different life forms, including other media (JDP 2016, 3). JDP explores the ways in which the environment itself may be considered as infrastructural media, observing that environments are “our infrastructures of being, the habitats and materials through which we act and are” (JDP 2016, 6, 15).

In his framework of environmental media, JDP differentiates between two different forms of media: technique and technology. According to JDP, in recent millennia, humans have become the

¹ I refer to John Durham Peters using the acronym “JDP” because that is how he refers to himself on his C.V. Please see https://english.yale.edu/sites/default/files/files/Peters%2C%20John%20Durham_CV21.pdf.

“planetary hegemon” through their use of various techniques and technologies (2016, 8). The former includes know-how and corporeal knowledge and craft that interact with bodies and tools, while the latter always exists in a lasting, material form (JDP 2016). As JDP notes, “The line between technique and technology is externalization into durable form, and thus the ability to profit from distance and absence” (2016, 91). Following this line of thought, JDP describes how ships are technologies that enable humans to explore the sea; the process of childbirth is a technique of the body that produces babies; fire is a technology that humans have used to gather together, keep time, and extinguish life and land. However, ships, flesh, and fire are not automatically media in themselves, JDP notes. “They are media for certain species in certain ways with certain techniques” (JDP 2016, 49). This thesis makes use of JDP’s theoretical approach in order to address questions about the relationships between bodies, land, smartphones, and websites in the context of foraging. For example, this approach would consider a foraging basket and an iPhone as technologies, and the embodied knowledge of *how* to forage as technique.

In order to ask questions about the use of digital technologies in the context of human relationships within the more-than-human world, I think and write “in concert with” (TallBear 2014) an intersectional group of scholars. In particular, I refer to the work of scholars who contribute to decolonial theory, intersectional theory, feminist studies, critical Indigenous studies, Indigenous science and technology studies (STS), and multispecies studies, among other literatures. This work brings to the foreground political, ecological, social, and cultural implications of technologies that networked foragers use in practice. The next section explores in greater depth some of these implications of networked foraging, and why the topic is a worthwhile area of research and study.

Why study networked foraging?

Foraging is a life-sustaining and deeply meaningful activity for many people. Foraging rights have been highly contested throughout history, with those in power—often affluent, white men—using militaristic, political, legal, and economic means to restrict the land ownership and access rights of other peoples (e.g., Dunbar-Ortiz 2014; HoSang, LaBennett, and Pulido 2012; Halvorson and Reno 2022; Saito 2020). Within the past couple of years, the recent global COVID-19 pandemic sparked a resurgence in interest in foraging in the U.S., as the country’s economy and food security became more precarious (Clouse 2022).

However, many types of foraging restrictions remain in place and enforced across different levels of government in the U.S. (Linnekin 2017). Being landless or having limited access to land on which to forage can fundamentally threaten or undermine one’s culture, health, spirituality, language, and economic and political independence in many ways. Put differently, anyone with a body that exists in physical space needs land on which to live, as well as direct or indirect access to land from which to nourish themselves. Therefore, access to land (and, by extension, the right to forage) is vital to all humans and remains highly politically contested in the U.S.

Furthermore, studying *networked foraging*, in particular, brings to the foreground power dynamics arising from the operation and use of digital products, services, and infrastructures. Such objects, services, and entities are often owned and managed by multinational technology companies including Alphabet Inc., Apple Inc., Meta Platforms, Inc., and Microsoft Corp. These companies are implicated in global sociopolitical events and systems, including human rights abuses (Jørgensen 2019) and surveillance capitalism (Zuboff 2019). This thesis explores the history of foraging rights in the U.S.

in order to situate contemporary networked foraging practices within the broader context of settler colonialism, systemic racism, and capitalism.

To networked foragers today, foraging may appear to offer a means of (re)“connecting” with—and developing new understandings of—the environment and one’s role within it. On the contrary, as Pellow (2017) notes, humans have always been fundamentally interconnected with our more-than-human relations and ecosystems. However, humans today are witnessing widespread “frictions, tensions, and harms” (Pellow 2018, 2) to those relationships. In the age now often referred to as the “Anthropocene” to denote human domination of the earth, learning how to forage may, for some, be a way of beginning to repair those relationships. Foragers often learn through practice how to identify plants, and may develop expertise in ecology and botany, among other fields. The digital tools foragers use today meaningfully frame notions of environment and species, among other concepts and categories, through the way in which they are designed and the types of content they provide. This thesis explores the role that digital tools play in mediating the relationship between humans and the land, as well as the way in which digital tools may privilege some forms of science, knowledge, and representation of self and environment. Amidst the shifting environmental conditions, mass displacement and migration, and widespread industrial pollution, critical evaluations of the tools we use to learn about and navigate the world are more important than ever.

Notes on terminology

In the U.S., foraging is generally understood today to mean “to rove or hunt about as in search of supplies,” (OED Online 2021) for food, medicine, and other human needs. The word derives from the

French verb *fourrager*—to “rummage around” (OED Online 2021). What counts as “foraging” has been contested within and outside of academia (Harris 1989; Bird-David 1992; Ingold 2000; Kelly 2013), so I approached my research with an open mind as to its definition, using the word itself as an entry point to understand how others make sense of the practice and go about learning how to forage. In doing so, this work does not account for communities of practice that do not use the term “foraging” because they use different words to describe what they do, use languages other than English, and/or do not use the internet or publish content online.

In a constantly-changing world with a multiplicity of epistemologies, cultures, and languages, it is important to recognize that no one word or practice is universally relevant or meaningful. My use of the term “foraging” in this thesis is not intended to supersede other ways of referring to or understanding hunting/gathering/food-procuring/etc. practices. Rather, the term is meant to sharpen focus on a range of practices I interpret in this project as “related,” in order to find points of connection with contemporary foraging practices in the U.S., such as I will explore in subsequent chapters.

Chapter summaries

I will organize the chapters in this thesis as follows. The second chapter, “Silicon transcendence: The ideological origins of networked foraging infrastructures” examines the history of foraging through an exploration of two key infrastructures: the U.S. high-tech industry and the private property and federal land systems. I begin by briefly tracing the historical development of the U.S. high-tech sector in Silicon Valley, which produces technologies many networked foragers use today. I describe the dominant ideology of the sector, called the “Californian Ideology” (Barbrook and Cameron 1995), as

well as critiques of that ideology from decolonial, Indigenous, and feminist scholars. Next, I explore the history of the infrastructure of private property and federal lands within the U.S. legal system. Through three brief case studies, I show how the private property and federal land systems developed over time to support the agendas of European colonists, white supremacists, and the U.S. federal government. I also highlight some of the ways in which the closing of the commons in the U.S. South and the development of the U.S. National Parks and Forest Services have historically denied black people, Indigenous peoples, and people of color access to land and, ultimately, foraging rights. Overall, I argue that these networked foraging infrastructures have violent and racist histories, and contribute to ongoing injustices. The racist, capitalist, and colonial values embedded in the U.S. high-tech sector and private property and federal land systems have historically been harmful to human and other-than-human bodies and landscapes. The values and relations these systems represent are important infrastructural elements of the landscape that produce unequal access to land.

In the third chapter, “Getting situated: Related literature and research methods,” I provide a brief review of academic work that explores the ways in which racism, colonialism, and capitalism operate in cyberspace. In this chapter I describe the results of two thematic analyses that I performed on Instagram and Facebook posts, respectively, in order to contextualize networked foragers’ posts on social media platforms. Finally, I describe the way in which the results from the thematic analyses, as well as various scholarly work, informed the approach I took to designing and conducting the interview-based portion of my research.

In the fourth chapter, “Orienting and identifying: ‘Skilled vision’ and Western technoscience,” I discuss how my interviewees learned about their local environment and began to forage. I begin by

describing how my interviewees used digital technologies such as smartphones, Google Search, Google Maps, Facebook, and Instagram to learn about the local/regional environment and unfamiliar species. Next, I discuss how my interviewees developed a group-based “skilled vision” in order to develop multi-sensory familiarity with other species and communicate with other networked foragers. Finally, I describe the way in which my interviewees assessed the “expertise” of other networked foragers. I examine these practices with particular regard to the norms and practices that favored some people and forms of knowledge over others.

The fifth chapter, “Harvesting and consuming: The biopolitics and ethics of consumption” investigates how my interlocutors used media technologies to determine how and whether to harvest and consume something. I examine the ways in which my interlocutors described assessing the edibility/toxicity of different species; using their bodies as tools with which to maintain their local environment through consuming invasive species; and consuming local foods to become part of the ecosystem and intimately connect with other beings. This chapter explores the ways in which my interlocutors negotiated precarious new relationships with other species, mediated by a discourse of risk mitigation that often located toxicity within “other” bodies, rather than as incompatible relationships between bodies, and also often neglected to account for human-made toxicants present in the environment. Finally, this chapter discusses the controversial practice of “pick shaming” (objecting on moral grounds to someone’s harvesting practices) and how the systematic blocking of pick shamers in online forums diminishes the possibility of collectively discussing the ethics of foraging.

The sixth chapter, “Recording: ‘A living tree of life’ on social media platforms” explores the ways in which my interlocutors record and publish to the web information and experiences from their

foraging journeys, including DNA sequencing information, photos of harvested foods, recipes for meals to cook using foraged ingredients, and personal reflections. I describe how my interlocutors' perceptions of social media algorithms shaped what kinds of content (and when) they posted to the web, demonstrating how the ever-shifting operations of major tech companies materially shape the archives and interactions of networked foragers.

The seventh and final chapter, "Anti-conclusion," summarizes my findings and, like a mushroom, sporulates ideas for possible future research.

Given that I am an active participant in this research project, this thesis will also include autoethnographic "interludes" between some of the chapters. These interludes are inspired by those included in Anna Tsing's *The Mushroom at the End of the World* (2015) and, in a similar vein, are sensory descriptions of my experience as a networked forager in Pasadena, Calif.; Cambridge, Mass.; and Westerville, Ohio. These interludes allow me to more explicitly acknowledge my own stakes in this research project, including the ethical dilemmas I experienced and forms of privilege I possessed as a networked forager. Furthermore, they allow me to demonstrate the "situatedness" of this research project, and the "partial perspective" that I bring to this topic, based on my upbringing and educational background (Haraway 1988).

{ Interlude 1 }

Pasadena, Calif.— The midmorning air smells of desert dust. It’s around 10 A.M. Pacific Time on May 24, 2021 and it’s already about 79 degrees Fahrenheit outside. Under the sun’s glare, I walk the rocky path along the Arroyo Seco (Spanish for “dry creek,” according to Google Translate) trying to find a plant whose name I already know. Very little looks familiar, although I’ve walked here many times



Figure 1. Telegraphweed’s profile, on the Seek by iNaturalist app.

before. This is the first time I’m really focusing my attention on the vegetation, trying to identify something that might be edible or usable in some form or another. The only plants I can name are some of the most commonly cultivated ones in Southern California: bougainvillea, olive trees, barrel cactus, and eucalyptus trees. Otherwise, the landscape is full of shrubs, small grassy plants, and trees that seem to blur together into a monolithic desertscape.

On this first foray, I feel a heightened sense of my status as an outsider to this ecosystem and geographic region. I am here in Pasadena because this is where my partner’s family lives, and we have temporarily relocated here during the COVID-19 pandemic while his work and my academic studies can be done remotely.

Crouching down next to a shrub with tiny, rigid leaves, I pull out my iPhone and launch the Seek app, which is a plant identification / citizen science app made by iNaturalist. Using

Seek, I take a photo of the shrub. After a moment, the app declares: “Camphorweed, *Heterotheca*

subaxillaris.” The photo of camphorweed that the app displays as a result doesn’t look exactly the same as the plant that I’m apprehending. I snap another photo of the shrub, and the app’s algorithm reassesses. “Telegraphweed, *Heterotheca grandiflora*,” says the app. I read Seek’s “About” section for this species, which draws information from Wikipedia, including the plant’s common name and lineage according to the Linnaean taxonomic system, as well as areas to which the species is native. A “Range Map” shows where other Seek users have observed the same species. The app also provides a chart depicting the species’ “seasonality,” (with no labeled units along the Y axis) and shares information about “similar species” such as Hairy Goldenaster and Camphor Daisy, although it’s not clear how these results were selected for display.

As I carefully look at the plants, snap photos, and take notes on my journey, I become more



Figure 2. Sacred datura.

aware of how differently I am using this space compared to the other humans around me. The half-dozen or so walkers and runners that I can see along the Arroyo Seco path appear largely disinterested in the vegetation. Trying not to feel conspicuous, I return to identifying several other plants around me using Seek. The app claims they are Sacred Datura, Wall Barley, Blue Plumbago, and Redvein Abutilon, each of which have complicated scientific names and multiple common names. At some point, a notification appears on my phone, and I see that

Seek has awarded me a badge for identifying 15 species. I quickly

dismiss the notification, disinterested in the gamification aspect of this app.

Continuing my exploration of the different species, Seek tells me that one of the plants I photograph is called Laurel Sumac. The linked Wikipedia article says that the Chumash—an Indigenous people of the central and southern California coastal areas—have traditionally used this plant in tea or ground it up and made it into flour. I wonder whether, if this is indeed Laurel Sumac, it is safe for me to eat or whether toxic chemicals from a nearby road might have been absorbed into the plant.

Some of these plant identifications—such as Cliff Aster with its distinctive squared-off petals—appear to be spot-on. Others, I’m not as sure about, since the appearance of a living plant at a particular point in its life cycle may not happen to match perfectly with the profile photo of the plant displayed by the app. I begin to wonder under what conditions I’ll ever trust Seek’s plant identification algorithm enough to ingest unfamiliar plants from my foraging trips.

I’m starting to feel a little too sweaty, hot, and overwhelmed by all of the organisms that I have yet to photograph using Seek. It seems like the more species I try to identify using the app, the more new



Figure 3. Here, I am holding my notebook, pen, and a Cliff Aster flower.

and unfamiliar plants emerge in the surrounding desertscape—the monolith starts to break apart into a million tiny, differentiated organisms. I feel a slight headache coming on from snapping so many photos and reading such tiny text on the Seek app. I begin to crave a multi-sensory way of learning the plants, rather than relying on visual information alone. My eyes feel tired from so much careful looking, but my other sensory systems are bored.

Chapter 2

Silicon transcendence: The ideological origins of networked foraging infrastructures

To those without knowledge of the history of foraging and land rights in the United States, networked foraging may at first glance seem to be merely a trendy hobby for the environmentally conscious and tech-savvy. For some people, it may be easy to imagine that foraging is simply an exciting, new activity to share on social media, a way to “connect” with the environment and oneself, or a means of learning how to find and harvest food locally. In the U.S. and other countries, many networked foragers are using social media applications and digital tools like Google Maps, Seek by iNaturalist, Instagram, Facebook, TikTok, and YouTube, among other social media, to learn about foraging, discuss the practice with others, go out on foraging journeys, and share their foraging knowledge and experiences. On TikTok, for example, the multimedia artist Gabrielle Cerberville (@chaoticforager) posts videos demonstrating how to forage and prepare food using foraged ingredients to over 875,000 followers, as of this writing. In one recent video, which has been viewed over 335,000 times on TikTok, Cerberville (2021) demonstrates the “magic trick” of cutting into a *Boletus subvelutipes* mushroom and watching its flesh turn blue. However, foraging in the U.S. has a long and meaningful history that is not often addressed in viral TikTok or YouTube videos, or on Instagram posts. The political implications of networked foraging today become more apparent when one considers the histories of some of the practice’s fundamental infrastructures.

In this chapter, I examine the history of foraging by discussing the development of the U.S. high-tech industry and private property and federal land systems within which networked foragers act today.

This chapter begins by briefly tracing the historical development of the U.S. high-tech sector in Silicon Valley. It describes the dominant ideology of the sector, called the “Californian Ideology” (Barbrook and Cameron 1995), as well as critiques of that ideology from decolonial, Indigenous, and feminist scholars. Next, this chapter uses three case studies to explore the development of the federal lands and private property systems within the U.S. This section emphasizes the ways in which the closing of the commons and the development of the U.S. National Parks and Forest Services have historically denied black people, Indigenous peoples, immigrants, and people of color access to land and, ultimately, foraging rights. At the same time, the closing of the commons and development of the federal land systems may be tied more broadly to colonial initiatives that dispossess people from their homelands and selectively erase them from history in order to profit from land. Taken together, this chapter argues that the U.S. high-tech industry and land ownership infrastructures within which contemporary networked foragers act are underpinned by colonial, capitalist, patriarchal, and white supremacist logics that have devastated human and more-than-human bodies and landscapes. Taking inspiration from Moore’s (2011) concept of capitalism as world-ecology (i.e., ecological regime), this chapter sketches some of the ways in which capitalism, colonialism, and white supremacy converge to constitute an ecological regime that transforms bodies and land.

High-tech infrastructure: Ideological origins of Silicon Valley

In this section, I will briefly trace the early history of the U.S. high-tech sector in the southern part of the San Francisco Bay area (roughly overlapping geographically with the Santa Clara Valley), colloquially known as “Silicon Valley.” I will discuss some of the ways in which racism, sexism, and

colonialism were formative of the U.S.'s high-tech industry in Silicon Valley. I will then describe the “Californian Ideology” that Barbrook and Cameron (1995) argue permeates Silicon Valley-based institutions—and has come to infuse institutions around the world—as well as critiques of this ideology and Silicon Valley.

Early history of Silicon Valley

Silicon Valley is generally regarded as the birthplace and headquarters of the high-tech industry in the United States, and it is well-known and widely copied around the world (e.g., “Silicon Roundabout” in London; “Silicon Savannah” in Nairobi; and “Silicon Alley” in New York City). Beginning at least since 500 C.E., the area was originally inhabited by approximately fifty independent nations of the Ohlone/Costanoan people with a vibrant market economy and equitable distribution of natural resources, including turquoise, obsidian, soapstone, and cinnabar (Park and Pellow 2002). However, the land was taken over by Spanish colonists starting in the late 18th century (Park and Pellow 2002). Believing that this land was a “pristine wilderness shaped entirely by the hand of God” and populated by “heathens” (Park and Pellow 2002, 26), the Spanish colonists enslaved the local Indigenous people and forced them to convert to Christianity or be executed. The Spanish empire grew by exploiting Indigenous labor and knowledge, and Spanish, Mexican, and other colonists devastated the environment through overhunting, extensive livestock grazing, the introduction of non-native species, and other actions (Park and Pellow 2002). After the Mexican War of Independence from Spain, in 1821 the territory became part of Mexico. In 1848, California was ceded to the U.S. following the Mexican-American War, becoming a U.S. state two years later (Morgan and McNamee 2021). Starting in 1848,

the Gold Rush transformed the land as immigrants arrived (mainly white men) to pursue the “American Dream” of striking riches. During this time, Indigenous peoples and people of color were subjugated to the lowest tiers of the labor market, performing the harshest and lowest-paid forms of labor in gold mines, with exposure to toxic substances such as mercury (Park and Pellow 2002). The colonial and capitalist exploitation of land and labor starting in the late 18th century would echo into the 20th and 21st centuries in the place that came to be called Silicon Valley.

Much of the scholarship examining the emergence of Silicon Valley as a technology and innovation hub in the post-World War II era centers on the synergistic confluence of military-industrial research funding from the U.S. Department of Defense during the Cold War, large venture capital inflows, and academic work and leadership at Stanford University (Leslie 1993; O’Mara 2019). As Stuart Leslie has written, the so-called “golden triangle” formed by military agencies, private high-tech companies, and research universities like Stanford brought about a new approach to science and technology in the postwar era that “blurred traditional distinctions between theory and practice, science and engineering, civilian and military, and classified and unclassified” (1993, 2). This approach was interdisciplinary, entrepreneurial, and heavily influenced by cybernetics’ rhetoric of systems and information (Turner 2010).

A new group soon joined with the “golden triangle,” giving rise to a distinctive ethos in Silicon Valley with a lasting legacy. Starting in the late 1960s, a group Turner (2010) refers to as the New Communalists began to settle in the area. The New Communalists were made up primarily of young, socioeconomically privileged white people interested in going “back to the land,” living in communes, and transforming their consciousness through the use of recreational drugs (Turner 2010). Related

white practices of “wilderness survival” have been variously critiqued as reinforcing notions of white people as “civilized,” and “rightful owners” and “protectors” of land (Cronon 1999; Corliss 2019; Morton Turner 2002). Turner (2010) argues that this group of New Communalists was introduced to startups in the tech sector and research groups in academia by such “network entrepreneurs” as Steward Brand who edited the Whole Earth Catalog, a magazine and product catalog with an emphasis on self-sufficiency, access to tools, and “do it yourself” (DIY). New Communalists embraced technology and cybernetics as means by which to shape their environment, fulfill their utopian ideals, and bring humans together (Turner 2010). What emerged from this fusion of military-industrial science, capitalism, and techno-utopianism was what the British media theorists Barbrook and Cameron (1995) termed the “Californian Ideology.”²

Criticisms of the Californian Ideology

The enchanting, techno-utopian mythology surrounding Silicon Valley belies the lived realities of the U.S. high-tech industry and its supply chains. In their seminal essay, Barbrook and Cameron (1995, 8) critiqued Californian ideologues as technological determinists enjoying “the cultural freedoms won by the hippies” while rejecting true systemic change. Instead, Barbrook and Cameron (1995) argue, the ideologues accepted the “natural laws” of technological progress and valorized rugged individualism and free-market capitalism with white supremacy at their cores (1995, 10-11). Barbrook and Cameron

² I use Barbrook and Cameron’s (1995) “Californian Ideology” term here with the understanding that this ideology is not meant to be representative of the whole U.S. state and its peoples. Rather, the term denotes the state in which the ideology originated, according to Barbrook and Cameron (1995).

(1995) argue that the Californian Ideology is both blind to and dependent upon the social and racial fragmentation that gave rise to it. Consistent with this observation, Cherokee, Hawaiian, and Samoan digital media theorist Jason Edward Lewis writes,

Designers and developers of media technology choose what counts as knowledge, what sorts of operations we can perform on that knowledge, and how that knowledge becomes manifest in the world. The fact that they are often doing so without being conscious or deliberative about how they are re-enacting a matrix of fundamental assumptions about human nature and human work in no way lessens the impact of those decisions (2014, 61).

Barbrook and Cameron contend that the Californian Ideology reinforces existing power dynamics, since “the deprived only participate in the information age by providing cheap non-unionised labour for the unhealthy factories of the Silicon Valley chip manufacturers” (1995, 13). Although this unequal participation in the information age may look somewhat different today, there remain considerable inequalities in who has control within—and benefits from—the U.S. high-tech industry (Precarity Lab 2020). Others have also critiqued the political economy and technoscientific approach of Silicon Valley. In her influential essay “The Cyborg Manifesto,” originally published in 1985, Donna Haraway writes of “women in the integrated circuit” to refer to the way in which people around the world in “electronics-dependent jobs” are restructured according to gender, race, and class by “the social relations of science and technology” (2016, 37-38). In a similar vein, Karen Hossfield (1994) has written about the ways in which women of color were hired as cheap laborers to perform “low-tech” manufacturing assembly work within the high-tech industry, underpinned by “capital logic” that devalued people according to their racial, immigration, and gender status. More recently, Lisa Nakamura (2014) has highlighted the role of Navajo women (and some men) in performing low-paid electronics and digital device production work between 1965 and 1975 at Fairchild Semiconductor’s 33,000-square-foot

facility built on Navajo reservation land in New Mexico. Such work in electronics and digital device manufacturing exposed workers to toxic substances and hazardous working conditions, within a system of temporary labor that made it more difficult for workers to identify the sources of health issues, advocate for their rights, and unionize (Park and Pellow 2002; Sonnenfeld, Allan, and Pellow 2006; Precarity Lab 2020). Taken together, these scholars (among others) reveal and extensively document the ways in which Silicon Valley's elites deploy capitalist and technoscientific logics to legitimize supposedly-meritocratic hierarchies among workers along dimensions of gender, race, class, and immigration status.

Other scholars have brought to the foreground the ecological destruction of Silicon Valley by the operations of high-tech companies. For example, Park and Pellow (2002) have discussed the impact that the semiconductor manufacturer Signetics Corporation had on the health of its employees and surrounding land as a result of using toxic chemicals. Signetics used three female workers like “canaries in a coal mine” to detect the presence of noxious fumes around the manufacturing facility (Park and Pellow 2002, 23), which rhymes with the disproportionate exposure to toxic substances that Indigenous peoples and people of color experienced during the earlier Gold Rush period. Sonnenfeld, Allan, and Pellow (2006) have explored the environmental impact of Silicon Valley across the supply chain and throughout the life cycles of the products the industry produces. Lécuyer (2017) has written about the efforts of worker activists to make corporations in Silicon Valley—particularly microelectronics firms—accountable for their pollution of the local environment. Such scholarly work draws attention to the interconnected relationship between ecological destruction and racism, sexism, capitalism, and colonialism that underpins the Californian Ideology.

The Californian Ideology's influence has reached well beyond the U.S. high-tech sector and has reconfigured state governments, private businesses, universities, and other organizations, with significant consequences for people around the world. For example, Jonathan Crary (2014) has written about the ways in which digital-technology-infused capitalism in the 21st century erases traditional boundaries between work and leisure, office and home while encouraging round-the-clock productivity, consumerism, and surveillance across many domains of human life. Seeing the palimpsest of settler colonialism in contemporary racial capitalism around the world, Vergès (2021) calls attention to the way in which ongoing coloniality allows many humans to be considered as disposable, such as essential workers in the context of the COVID-19 pandemic. Nakamura's Precarity Lab (2020), a research team based at the University of Michigan, has advanced the term *technoprecarity* to describe the ways in which digital technologies create and exploit flexible labor and shift accountability and risk from organizations to individual people. This shift disproportionately accelerates premature exposure to death and debility among people of color, black people, Indigenous people, women, migrants, ethnic and sexual minorities, the socioeconomically poor, and peoples in the global south (Precarity Lab 2020). The Precarity Lab (2020) draws parallels between the ways in which scientific laboratories, colonies, plantations, factories, prisons, and other entities reproduce precarity through a lab-based model of experimentation and exploitation. This framework positions technoprecarity as a contemporary generalized condition and mode of governance made legitimate and unquestionable through claims to efficiency, profitability, optimization, moral progress, and innovation (Precarity Lab 2020)—hallmarks of the Californian Ideology. As such, “laboratories” led by the powerful operate on behalf of empires in the form of nation-states, corporations, universities, cities, and other entities, and they extract value from

labor, flesh, and land (Precarity Lab 2020). Similarly, Anna Tsing (2012) has critiqued the distinctly American imperative of scalability (a fundamental principle of the Californian Ideology), with its roots in colonialist plantation systems, which has become ubiquitous as a method of “world-making” in business, government, and the tech industry. Tsing defines scalability as “the ability to expand—and expand, and expand—without rethinking basic elements” (2012, 505), precluding the possibility of transformative relationships among a project’s constitutive elements and agents. Tsing (2012) observes that scalability leads to the creation and abandonment of ruins.

Many of the technologies that networked foragers use today are implicated in Silicon Valley’s colonial and racist history, as well as the present-day conditions of global technoprecarity (Precarity Lab 2020; Parikka 2014). Many networked foragers use the products and services of multinational technology conglomerates Alphabet Inc. (whose many subsidiaries include Google, which owns YouTube) and Meta Platforms, Inc. (whose subsidiaries include Facebook, Instagram, and WhatsApp). These tech companies and their digital products and services have been associated with the mass circulation of climate change mis- and disinformation (Lazer et al. 2018; Treen, Williams, and O’Neill 2020; Valerio-Ureña, Asprón, and Salazar 2021), as well as COVID-19 vaccine mis- and disinformation throughout the global pandemic (Yang et al. 2021; Wardle and Singerman 2021).

The harmful downstream effects of the Californian Ideology affect the livelihoods of even the historically privileged. This “affronted class” is made up of newly-precarious, primarily white and educated workers (Precarity Lab 2020). Silicon Valley itself has a high rate of income inequality and homelessness, and even having a six-figure household income is not always sufficient to secure housing (Joint Venture Silicon Valley 2021; Meehan and Turner 2021).

This outcome is not surprising considering the ways in which settler colonialism and the accumulation of capital under racial capitalism are constitutive of Silicon Valley rather than mere byproducts. Such an observation is in accordance with Moore's (2011) critique of Marxian metabolic rift theory (Foster 1999). Moore argues that the theory of metabolic rift is grounded in the Cartesian separation of nature and culture which perceives environmental degradation as an output of capitalism, rather than constitutive of capitalism. Moore (2011) proposes the concept of capitalism as world-ecology, or in other words, an ecological regime that orders symbolic and material relations in the world. In a similar vein, I wish to highlight in this chapter the ways in which capitalism, settler colonialism, racism, and sexism converge as an ecological regime that transforms bodies and land.

JDP's observations of media as "civilizational ordering devices" (2016, 5) dovetail with Moore's formulation of ecology. JDP claims, "Media always concentrate power along all three civilizational axes [psychic, social, and biological], a fact that is easy to miss amid the waves of hype about silicon transcendence" (2016, 7). As technoprecarity intensifies and geopolitical tensions rise amidst ongoing climate change, refugee crises, mass extinctions, and political polarization, we humans must identify and make use of different—but perhaps not new—media for organizing and controlling psychic, social, and biological resources (JDP 2016). Or, as Moore might see it, we must recognize the ways in which racial capitalism, settler colonialism, and other forces mediate symbolic and material relations within and between humans and the more-than-human world.

Such a social transformation calls for elites to recognize the ways in which systems of power have been harmful, including to their own communities and lands. Elites—especially middle-to-upper-class white people like me—are only now feeling the consequences of the socio-technological systems white

people helped to design or applauded from the sidelines. It is essential that elites not seek to restore old claims to power and instead recognize the ways in which those old systems have been harmful to all (Precarity Lab 2020). As the American poet and critical race theorist Fred Moten put it:

The coalition emerges out of your recognition that it's fucked up for you, in the same way that we've already recognized that it's fucked up for us. I don't need your help. I just need you to recognize that this shit is killing you, too, however much more softly, you stupid motherfucker, you know? (Moten and Harney 2013; quoted in Precarity Lab 2020, 73)

The “waves of hype” surrounding Silicon Valley have certainly waned in recent years, as critiques of the U.S. high-tech sector grow beyond non-white, non-affluent communities and become accepted among the white, socioeconomic elite. This transformation is evident from, for example, the 2018 founding of the Center for Humane Technology, led by the American technology ethicist Tristan Harris, as well as the popular 2020 docudrama film “The Social Dilemma,” distributed by Netflix, which critiques social media platforms and surveillance capitalism.

While capitalism, settler colonialism, and white supremacy significantly shape the high-tech infrastructures within which networked foragers act, other important infrastructures to consider include the private property and federal lands systems. The next section will explore the historical development of these infrastructures, their implications for land access and ownership, as well as the violent political, cultural, and economic strategies that enabled them.

Legal infrastructure: Settler colonialism and the closing of the commons

This section will explore the history of conflicts over foraging rights in the U.S. through three case studies. This section illustrates historical developments that closed access to the commons and

ultimately restricted foraging rights in the U.S. These restrictions denied the sovereignty and human rights of Indigenous peoples, black people, people of color, immigrants, women, and the socioeconomically poor, among others, to the economic and political benefit of those in power— often people who were white, affluent men. These case studies are meant to show some of the ways in which settler colonialism, capitalism, and white supremacy act together as an ecological regime and transform bodies and landscapes. The case studies focus on the following topics:

- (1) Foraging-related practices of Indigenous peoples on the land now often referred to as the United States, and conflicts that emerged over foraging rights as European settlers, and later the U.S. Government, encroached on their ancestral homelands through a variety of tactics.
- (2) Conflicts over foraging rights that emerged between black people and white supremacist landowners and politicians in the South following the U.S. Civil War.
- (3) The development of the National Park and Forest Services with their accompanying policies regarding foraging, as well as the ways in which federal regulations and markets interacted to shape mushroom pickers' relations with the land.

These case studies are not intended to offer comprehensive and detailed histories of foraging rights and the private property and federal lands systems in the U.S. Rather, they are intended to gesture toward much broader histories, and help elucidate the historical contexts and political dimensions of contemporary foraging practices.

The first case study concerns Indigenous peoples in the U.S., both before and after European colonization. The peoples of these Indigenous nations, past and present, largely did/would not describe themselves as “foragers” – As Anderson (2005, 2) observes of Indigenous peoples of California,

The terms ‘hunter-gatherer’ and ‘forager,’ inaccurate anthropological labels assigned to most California Indian groups, connote a hand-to-mouth existence. They imply that California Indians dug tubers, plucked berries, and foraged for greens in a random fashion, never staying in any one place long enough to leave lasting human imprints.

Indigenous peoples developed a highly sophisticated range of approaches to relating with and caring for the land (Cronon 1983; Dunbar-Ortiz 2014; Kimmerer 2020; Mt. Pleasant 2015). These approaches were typically embedded within their cosmologies, practices of geographic mobility and seasonal transience, perception and active stewardship of the environment, and other cultural practices (Cronon 1983; Kimmerer 2020; Anderson 2005; Salmón 2020). Similarly, I do not wish to impose the term “foraging” and its variants on historically-situated black and African-American, Southeast Asian, white, and Latinx communities illustrated in the second and third case studies. The peoples in these two case studies may not have used the term “foraging” in the way that this thesis does, if they used the term at all.

Case study 1: Indigenous nations’ foraging and land rights

The first case study concerns the peoples of Indigenous nations in the United States—before there were any such “states” at all. These indigenous peoples called this land their home for many thousands of years prior to the arrival of the European colonists. Over that time, they developed advanced forms of agriculture, politics, and trade, among other things, as well as sophisticated knowledges of—and spiritual relationships with—the land. When the European colonists arrived in the U.S., they already represented a violent legacy of centuries of settler colonialism and expropriation of land in other areas of the world, based on the ideologies of white supremacy and Christian moral authority (Dunbar-Ortiz 2014). They brought these practices to this land, too, and soon introduced the concept of property rights. These changes severely disrupted Indigenous lifeways, including traditional foraging practices, and displaced them from the land to which they were materially and spiritually bound. In this violent

process, the European colonists not only shattered Indigenous traditional lifeways, but also appropriated Indigenous knowledge (including knowledge related to foraging) and lands for the settlers' own use. This transfer allowed the settlers to procure their own foods and other resources for survival, which enabled colonial settlements to grow and prosper. Later actions taken by the U.S. Government forcibly displaced Indigenous peoples and attempted to further erode their culture. However, Indigenous peoples have continued to resist the colonial regime through a variety of measures, including protesting and taking legal action.

Indigenous lifeways and foraging practices

A widely-cited study by Reich et al. (2012) proposes that the first settlers of the Americas, or “First Americans,” crossed over a land bridge from Eurasia during the ice ages approximately 15,000 years ago, and then migrated south, splitting into different groups and settling in a variety of areas from the northern reaches of North America to the tip of South America.

These Indigenous nations that settled in the modern-day U.S. frequently depended on foraging, as well as practicing agriculture and other environmental and food procurement and preservation practices (Cronon 1983). According to historian William Cronon (1983), Indigenous peoples living in what is now the New England area adjusted their diets and remained highly mobile in order to consume the foods that were most plentiful at any given time and place. For example, New England summers were abundant with berries, nuts, and other foods (Cronon 1983). In what is now generally the northeastern area of the United States, the Six Nations of the Iroquois Confederacy, also referred to as the Haudenosaunee people, comprised thousands of agricultural villages and areas with abundant game

animals (Dunbar-Ortiz 2014). In the Southern New England area, harvested grains made up approximately one-half to two-thirds of indigenous peoples' diets, whereas farther north where agricultural practices were less common, native peoples foraged for food through hunting and fishing for much of their dietary needs (Cronon 1983). In the Pacific Northwest, Indigenous peoples thrived from their proximity to abundant sources of salmon and other fish, as well as intertidal creatures like clams, scallops, and crabs (Dunbar-Ortiz 2014).

Indigenous peoples developed a range of techniques of environmental management that, among other outcomes, facilitated foraging practices. Anderson writes that Indigenous peoples of California engaged in coppicing (repeatedly cutting down tree stems to ground level), sowing, weeding, thinning, and selective harvesting, among other practices (2005). Some Indigenous peoples were skilled with using fire to shape the landscape to specific ends, such as to encircle and trap wild animals to be killed and eaten, as well as to stimulate plant growth to entice game (Dunbar-Ortiz 2014). Native peoples also effectively imported bison to the east by burning the landscape to turn it into fallows, allowing the bison to have a food source farther and farther from their indigenous habitat in the northern and southern plains of North America. In turn, bison became a vital source of food for the Haudenosaunee people (Dunbar-Ortiz 2014).

It is important to note that Indigenous peoples generally perceived other forms of life in the environment as having agency, honor, and kinship with humans, and these perceptions were embedded in Indigenous cosmologies and relationships of reciprocity with the environment (Dunbar-Ortiz 2014; Kimmerer 2020; Gilio-Whitaker 2019). By the time the European colonists arrived, they encountered not a vast, "virgin" wilderness, but a thriving and highly connected network of Indigenous nations with

a wealth of different forms of knowledge, traditional practices and beliefs, and spiritual connections to the land (Dunbar-Ortiz 2014).

Conflict over Indigenous peoples' land rights

Early colonists at the end of the 15th century and beginning of the 16th century often viewed the landscape as a collection of isolated, extractable “merchantable commodities” that could sell for a profit in England (Cronon 1983). The colonists³ seized Indigenous lands and disrupted their trade networks and agricultural practices, leading Indigenous nations to experience severe food shortages, malnutrition, and starvation, among other negative social, economic, and cultural outcomes (Dunbar-Ortiz 2014). Additionally, as Gilio-Whitaker (2019) and Liboiron (2021) argue, environmental devastation and exploitation were (and continue to be) integral to colonialism and its tactics for expropriating land and amassing wealth and power.

Indigenous peoples resisted colonization by fighting back against the colonists, killing or capturing them, and setting fire to their settlements (Dunbar-Ortiz 2014). However, between the 16th and 17th centuries, the European colonization projects, combined with and reinforced by the lethal effects of disease brought by colonists, reduced the Indigenous population of the Americas by approximately 90 percent (Dunbar-Ortiz 2014). At the same time, the colonists appropriated Indigenous skills, trails, roads, and cultivated lands. They learned from Indigenous people they held

³ Early colonists were a diverse lot, made up of adults and children from many parts of Europe, such as England, Spain, Russia, and France. Additionally, some of the colonists were indentured servants who had fewer rights and privileges than more affluent colonists. There were distinct power relations among the members of these colonial groups that this thesis does not explore in detail. Please see Taylor (2002).

captive where to find water, oyster beds, and medicinal herbs, among other resources, and took control of farmland and deer parks that had previously been managed by Indigenous people (Dunbar-Ortiz 2014). Historian Francis Jennings argues that had the Indigenous nations themselves not been so advanced, the colonists would likely have failed to survive and build a society that would lead to the establishment of the United States (Jennings 1975).

According to Dunbar-Ortiz (2014), after the U.S. became an independent nation in the late 18th century, the peoples of Indigenous nations who remained lived relatively autonomously, although heated conflict and violence still occurred between the settlers and them. Faced with such existential challenges as starvation and frequent violent attacks, various Indigenous nations were coerced into signing treaties with the U.S. government to give up their territory in exchange for money and goods (Dunbar-Ortiz 2014). In 1830, President Andrew Jackson signed the Indian Removal Act which led to the forcible removal of Indigenous peoples in the South to federal “Indian Territory” west of the Mississippi River in what became known as the Trail of Tears. Thousands of Indigenous peoples died on or shortly after this forced march from their homelands (Dunbar-Ortiz 2014). Within the first century of the U.S.’s establishment, the government signed over 370 treaties with Indigenous nations. However, by the terms of the 1871 Indian Appropriation Act, the federal government no longer viewed Indigenous nations as independent, and the government halted treaty-making. The federal government would thus make decisions affecting Indigenous peoples without their prior consent or knowledge. Furthermore, by the 1880s, the federal government successfully carried out a campaign to systematically decimate the buffalo population, which had dramatic effects on the livelihoods, economies, and cultures of Indigenous peoples. The U.S. Office of Indian Affairs (established in 1824 and later renamed the

Bureau of Indian Affairs) worked to assimilate Indigenous children in state-sponsored boarding schools and thereby erase generational memory of Indigenous cultures and languages (Dunbar-Ortiz 2014).

Resistance to European settler colonialism

Indigenous peoples continued to resist colonization, protest their treatment by the U.S. government, and demand restitution and self-determination (Dunbar-Ortiz 2014). They began to gain political power and momentum during the Vietnam War era, and the first instance of land restitution to any Indigenous Nation occurred in 1970 (Dunbar-Ortiz 2014). Following more than 60 years of protest by the Taos Pueblo Indians to reclaim 48,000 acres of land originally stolen from them in 1906, President Nixon signed Public Law 91-550 into effect in 1970, which returned the land to them (Dunbar-Ortiz 2014). In a landmark court case in 1974, a U.S. District Court judge ruled in favor of fourteen Indigenous fishing nations from the Pacific Northwest, validating their right to 50 percent of fish taken “in the usual and accustomed places” as designated in treaties from the 1850s (Dunbar-Ortiz 2014, 182). The 1970s marked a new era in which Indigenous peoples in the United States were granted greater self-determination and legal authority by the government, although their ability to recover ancestral territory remained limited (Dunbar-Ortiz 2014).

Case study 2: Black and African-American foraging and land rights in the U.S. South

The experiences of black and African-American people in U.S. history have been profoundly affected by systematic violence and oppression, particularly during the pre-Civil War era when human chattel slavery was prevalent throughout the country. Foraging rights and access to the commons were vital to

enslaved people in the South who otherwise had little control over what and how much they ate. These rights continued to be vitally important to newly-freed black and African-American people after the Civil War, as many were working to exercise their independence. However, these newly-freed peoples confronted opposition on many fronts. Many were effectively forced back into subservient socioeconomic positions and denied the right to own and access land.

Black and African-American lifeways and foraging practices

From the early 17th century and through the American Civil War, human chattel slavery was fundamental to the U.S.'s economic development. Oceangoing ships that were part of the Atlantic slave trade effectively served as “technologies of race-making” that “transformed Wolof Muslims, Biafran farmers, and Akan soldiers into ‘Negroes’ for sale in the Americas” (Rockman & Beckert 2016, 11). People were taken from their homelands on the African continent, forced to undergo hazardous seafaring journeys through the Middle Passage to the U.S. and other countries, and were eventually sold as commodities. For those who came to the U.S., these people were often violently forced to work on plantations established on lands that had been stolen from Indigenous peoples (Rockman & Beckert 2016).

From the time they were boarded onto ships to cross the Atlantic, enslaved people had little to no control over when or what they could eat. By the time they reached the shores of the U.S., many enslaved peoples were malnourished. Enslaved people were given meager meals, when they were given food at all, and if they refused food, they were sometimes forced to eat using instruments that pried their jaws open (Covey & Eisnach 2009). The formerly-enslaved writer and abolitionist Frederick Douglass

recalled being served boiled corn meal in a trough on the ground, as if he and the other enslaved children were “like so many pigs” (Garrison & Douglass, 1849, p. 27). Depending on the types of food available to enslaved people, as well as how the food was stored and cooked, nutritionally-related diseases emerged among enslaved peoples in different areas of the U.S. (Covey & Eissach 2009). Many found ways to supplement their food rations and reclaim control over their diets by—depending on where they lived—growing crops, gardening, and foraging for nuts, seafood, and wild game, including chicken and opossum (Covey & Eissach 2009; Sawers 2015).

Political battles over foraging rights and access to the commons

In the U.S., the institution of human chattel slavery was made illegal in the mid-19th century. The Civil War, which began in 1861, erupted over conflicts between northern and southern states regarding the practice of slavery (McPherson 2003). Amidst the Civil War, Abraham Lincoln signed the Emancipation Proclamation, which went into effect at the beginning of 1863, designating more than 3.5 million enslaved people in the Confederate states as free citizens (U.S. National Archives n.d.). In 1865, the Thirteenth Amendment to the U.S. Constitution abolished the practice of slavery throughout the U.S., including in the northern states, while the Fourteenth Amendment in 1868 granted citizenship status and voting rights to formerly-enslaved people born or naturalized in the country (U.S. Senate n.d.).

Unfortunately, formerly-enslaved people soon found that legal freedom didn’t necessarily guarantee economic liberation. Black and African-American people in the South were increasingly dependent upon common resources for foraging and allowing livestock to graze. Some formerly-

enslaved people traded or sold foods they had foraged (Sawers 2015). In turn, hostile white landowners and politicians used a variety of tactics to force formerly-enslaved people back onto plantations as a source of cheap labor. According to historian Steven Hahn (2005), during the post-war Reconstruction era in the South, newly-freed black citizens used their voting rights—albeit, unevenly across the states and within states—to attain representation in local government and state legislatures. With their new power, some black Republicans were successful in raising taxes,⁴ in some cases forcing the addition of more plantation land onto the market so that black people might have greater opportunities for owning land (Hahn 2005). They were also able to change tax policy favorably for newly-freed people in some areas, and slow or halt entirely a flood of local policies that prevented individuals from selling agricultural produce after dark, as well as laws aimed at prohibiting the grazing of livestock or game hunting on unenclosed land (Hahn 2005). Black politicians were also able to hold a majority of legislative and committee seats in South Carolina and press for issues such as expanding black landowning rights (Hahn 2005).

Although black people were able to wield some political power at the local and state levels, ultimately they were unable to garner sufficient power to prevent the closing of the commons. The national Republican party failed to embrace them and their efforts to enact change were often undercut by white noncompliance within government, among other factors (Hahn 2005). In many places throughout the South where white plantation owners held a great deal of political power, the commons were effectively closed through the enactment of local stock laws, which required livestock owners to

⁴ Presumably, property taxes, which would make holding land more expensive.

fence in their livestock on private property (Hahn 2006; Sawers 2015). These stock laws replaced so-called “fence laws,” which had previously required crop owners to fence in their crops, and take on the liability of wandering livestock potentially damaging their crops or becoming injured on their property (Hahn 2006; Sawers 2015). The replacement of fence laws with “stock laws” effectively privatized land that had previously been public and freely available as pasture, shifting power away from landless black and white livestock owners and toward property owners and urban dwellers (Hahn 2006; Reidy 1992). One affluent white planter, John Dent, wrote, “All the negroes and whites *who own no land* [emphasis in original], and by right and justice should not... vote... will vote for fencing [of crops and not animals]. It is simply a question of labor and capital” (Mathis & Mathis 1977, as quoted in King 1982, p. 57). Although whether these laws were racially motivated on a widespread basis has been contested (Kantor & Kousser 1993), they often prevented newly-freed black people and poor white people from keeping work animals and using the land as pasture for livestock. They also subjected these groups to the risk of losing their livestock in consideration of any damage done to the private property (Hahn 2006; Reidy 1992). Citizens who did not hold land had to obtain contractual rights to forage or allow their animals to graze, and failure to obtain such contractual rights could be met with criminal prosecution (Reidy 1992). In Mississippi in 1880, stock-law counties were inhabited by 68 percent of the state’s black population, and in Alabama, the figure was 81 percent (King 1982). In both states, the counties that were populated by a large majority of black people were the first to close the range (King 1982). According to Hahn, in some southern states, landless black people showed deep resistance “wherever it could be expressed” to the closing of the commons (1993, 252). The closing of the range across the

Southern states occurred gradually, perhaps slowed by proponents of fence laws, and was not completed until the 1970s (King 1982).

As it turns out, across the U.S., black ownership of private agricultural land reached its climax in 1910, with 16 to 19 million acres under black ownership (Gilbert et al. 2002). According to one estimate, by the end of the century, that number would fall to just under 8 million, or just under 1 percent of private agricultural land, while white people controlled 98.1 percent (Gilbert et al. 2002).

Case study 3: Mushroom pickers in the U.S. National Parks and Forests

This final case study will explore the early development of the U.S. National Park Service and U.S. Forest Service, as well as the colonial and capitalist approaches that formed the basis of these organizations' respective uses of the land and underpinned their variegated array of foraging restrictions. I will briefly discuss the impact some of these restrictions had on a community of Southeast Asian refugees, white people, and Latinx people who foraged for matsutake mushrooms, based on anthropologist Anna Tsing's (2015) research in the National Park and Forest lands of Oregon.

The Development of the U.S. National Park and Forest Services

Counter to the widespread narrative that the U.S. National Parks were set aside and conserved based on environmentalist and patriotic virtues, the first park emerged largely to serve corporate interests. In 1872, the federal government designated more than 2 million acres of land, largely in northwest Wyoming, as Yellowstone National Park (Sellars 2009). The designation of Yellowstone as a national

park was prompted by the lobbying efforts of the Northern Pacific Railroad Company which aimed to monopolize rail service in the area as part of a growing tourism industry (Sellars 2009).

The land that made up Yellowstone had previously been inhabited and altered by Indigenous peoples, including the Ahwahnechee people, for over 11,000 years. After European colonists arrived and expropriated the land, settlers formed an informal civilian administration to govern local use of the area, including foraging for food, harvesting timber, and using the commons as pasture for livestock, among other activities (Jacoby 2014). The 1872 legislation marked Yellowstone as a federally-protected land “set apart as a public park or pleasuring-ground for the benefit and enjoyment of the people” (National Park Service, n.d.). This federal protection of land was in stark contrast with the widespread exploitation of public lands typical of the Gilded Age, as well as the federal government’s active divestiture of public lands through shelling out railroad land grants, as well as land grants for homesteads, mining operations, and timber harvesting (Sellars 2009). The creation of the National Parks reinforced the expropriation of Indigenous peoples from their ancestral land, and also forced out the local settlers, putting the land under federal government control indefinitely (MacDonald 2018; Spence 1999; Sellars 2009).

Over time, more national parks were established, and the NPS evolved as an organization. According to Sellars (2009), the immense size of the first national park was less a result of efforts to conserve vast areas of “wilderness” than the result of recommendations by geologist Ferdinand Hayden who sought to protect lands most likely to contain significant thermal activity. However, Yellowstone’s vast size established the precedent of setting aside large areas of land as park area, although the National Parks system would later come to include much smaller parks, too (Sellars 2009). Over the coming

decades, the number of new national parks grew relatively slowly, but the pace picked up in the early 20th century, largely spurred on by growing conservation concerns, as well as self-interested railroad companies wanting to protect spectacular natural landforms as tourist attractions (Sellars 2009). The Organic Act of 1916 established the National Park Service (NPS) as an agency of the Department of the Interior, allowing management of the parks to be more formal and systematic (National Park Service 2021). As the NPS developed, Romantic-inspired notions of “pure” wilderness intertwined with patriotism, stimulating a nationwide interest in park tourism (Sellars 2009; Cronon 1996).

The development of the National Parks was underpinned by a colonial narrative that positioned the parks to affluent tourists as “pristine wilderness” “untouched” by humans. The NPS intentionally obscured the fact that these lands had been previously occupied by Indigenous peoples for thousands of years, even as they used Native American imagery and dancers to attract and entertain visitors (Burnham and Alborough 2000). The NPS’s interest in promoting tourism led to the construction of telecommunications systems, energy production and distribution facilities, hotels, roads, trails, restaurants, dumps, dams, mining sites, logging areas, and other facilities on national parkland (Sellars 2009). The paradoxical idea of preserving wilderness through the development of such areas for public use and enjoyment was an enduring concept that underpinned the development of the park system’s systematic approach to conservation and its lobbying for greater funds from Congress (Sellars 2009). Although vast areas of the parks remained undeveloped, those lands were often subject to arbitrary environmental management approaches that sought to protect charismatic megafauna, preserve scenic forest areas, and increase fish populations through stocking (Sellars 2009).

The NPS has maintained formal foraging rules since 1960, with modest allowances for foraging, including allowances specifically for Indigenous peoples (Linnekin 2017; Burnham and Alborough 2000). However, since 1983 the agency's default stance on foraging has been one of prohibition, a policy that is in line with the agency's broader conservationist approach that seeks to limit visitor disturbance in the environment (Linnekin 2017; Jacoby 2014). Unless specifically allowed by a park superintendent, it is generally forbidden to forage for or sell certain wild foods and/or harvest more than the allowed amount of certain foods (Linnekin 2017). Superintendents of each NPS unit may, at their discretion, permit the foraging of certain wild foods, such as nuts or berries, and they may stipulate the size, quantity, method of harvesting, or locations where such foods may be foraged (Linnekin 2017). As Linnekin (2017) notes, these rules can change from year to year within the same park or be dramatically different in two adjoining parks, often making foraging rules complex and confusing. Another source of confusion is that NPS rules for foraging are often different from rules within national forests, with which they are sometimes geographically contiguous.

The NPS developed alongside the U.S. Forest Service, which was managed separately under the Department of Agriculture. According to historian Samuel Hays, against the backdrop of rapid deforestation over the course of the century, in 1891, a new public lands law authorized executive orders to establish parcels of land as forest reserves, with the objective of maintaining these lands as public assets and potentially forestalling a "timber famine" (2009, 10). These forest reserves were under the direct management of the Department of the Interior until 1905, when the Forest Service was established and granted control over them (Forest Service n.d.). Hays (2009) argues that the Forest Service's early approach to managing the lands was ironically one of liquidation. Based on European forest

management practices, the Forest Service began to harvest timber from its own old-growth forests as a way of maintaining what it perceived as the forest's productivity and usefulness (Hays 2009). In the early years of public land management of these reserves, much of the administrative work involved expelling people from the land who had developed homesteads there, used the land for hunting or as pasture for livestock before it became public property (Hays 2009). The Forest Service did not develop close ties to industry until World War II, when the two worked to supply timber for the war effort and then, in the postwar years, worked to satisfy the high demand for timber to construct new homes (Hays 2009; Tsing 2015). By the beginning of the 21st century, the Forest Service had come full circle from its original mission of pursuing long-term "sustainable yield," to instead maximizing production of timber, and then returning to its original environmental and ecological mission, including with a new focus on biodiversity (Hays 2009).

In the mid-1970s, new legislation was passed to establish an environmental planning process to restore the forests and promote ecological goals (Hays 2009). Based on the perception that the increased human use of natural resources was inherently damaging, the Forest Service restricted public use of its lands, including foraging activities, in order to protect the forests' ecological health (Hays 2009). Between 1977 and 1995, a series of rules regarding the use and harvesting of timber and forest products, as well as hunting and fishing, within National Forests were created and amended, ultimately prohibiting most of these activities unless authorized by a special permit or contract (Department of Agriculture n.d.).

The U.S. National Parks and Forests were thus part of a broader shift from local, informal customs, rules, and ecological practices to a formal, bureaucratic system of state and federal control over

the environment (Sellars 2009; Hays 2009). Even as the government sought to preserve and sustainably use lands under the supervision of the NPS and Forest Service, ultimately these agencies, too, significantly altered the environments entrusted to them, treating them variously as tourist attractions and timber plantations, and often constrained individuals and groups, particularly Indigenous groups, to very limited forms of engagement with the land (Sellars 2009; Hays 2009; Jacoby 2014). Over time, state and city governments also established parks, with their own environmental management practices and visitation policies (Sellars 2009; Linnekin 2017). Restrictions on foraging in national parks and forests, combined with state- and local-level foraging restrictions, formed a complex legal landscape for would-be foragers. These restrictions were often subverted or overtly challenged, as the next section will explore.

Conflicts between mushroom pickers and National Parks and Forests officials

National parks and forests, with their patchy landscapes of foraging restrictions, were sites of conflict between those who enforced these restrictions and those who sought to subvert them. Anthropologist Anna Tsing (2015) documented such conflicts that she observed between 1993 and 1998 in Oregon, where people from mushroom-picking communities sometimes came into contact with law enforcement officials. The communities Tsing (2015) observed were made up largely of Southeast Asian refugees, along with some white and Latinx people, who picked matsutake mushrooms, a culinary delicacy that flourishes in forests disturbed by human intervention (Tsing 2015).

Racially-charged conflict emerged between the Forest Service and the mushroom pickers. According to Tsing (2015), in the early 1990s, Southeast Asian mushroom pickers, like other visitors to

the national forests, could camp wherever they wanted. However, according to Tsing (2015), after a group of white people claimed that the Southeast Asian people were leaving behind too much litter, the Forest Service moved the latter group to an access road and then to a gridded camping area, which were both more easily accessible to law enforcement officials and emergency vehicles. Despite the emergency vehicles' increased access to the mushroom pickers' campground area, forest regulations directed solely at the pickers required a police escort for emergency vehicles (Tsing 2015). Tsing (2015) documented one case in which this led to a prolonged delay in ambulance response to a critically injured picker, who died before the ambulance arrived. Tsing (2015) also observed that the Southeast Asian mushroom pickers tended to be confronted by police in the parks more often than other racial groups.

The pickers' actions in the national parks and forests were influenced by their financial constraints, as well as intermittent opportunities to capitalize on matsutake. Restrictions pertaining to foraging activities, including requirements to obtain mushroom picking permits, pay the associated permit fee, and abide by harvesting limits, were variously obeyed or ignored to varying degrees, depending on the circumstances (Tsing 2015). Tsing notes the extreme difficulty mushroom pickers experienced determining whether they were in an approved picking zone, as boundary markers were often absent. At the same time, fines for illegally picking mushrooms could be steep: in a national park, the fine was \$2,000 for a first offense (Tsing 2015). However, for the pickers, it could sometimes be financially advantageous to take the risk of getting caught, as the prices for mushrooms could on certain days be so high that they could earn more from harvesting and selling matsutake than they might be fined (Tsing 2015). Tsing's ethnographic research helps illustrate the ways in which the infrastructures of capitalism and settler colonialism—in the form of economic markets and foraging regulations on

federal lands—configured the environment and influenced the relationships between mushroom pickers and the land.

Conclusion

Many of the digital technologies networked foragers use today are the products of high-tech companies with geographic origins in Silicon Valley and/or ideological origins in the Californian Ideology. This ideology has manifested itself in conditions of global technoprecarity, which affects both the public and private sector, and disproportionately harms people of color, black people, Indigenous people, women, and peoples in the Global South. The Californian Ideology, underpinned by white supremacist and free-market capitalist logics, reinforces its own legitimacy through teleological narratives of “growth” and “efficiency” and sustains technoprecarious conditions for people around the world.

Networked foragers today act within particular technological and legal infrastructures. These infrastructures have historically denied or suppressed the land rights, foraging rights, and well-being of black and African people, Indigenous peoples, poor white people, and people of color. At the same time, these infrastructures have sustained the power of affluent white people. The values and relations of white supremacy, settler colonialism, patriarchy, and capitalism form an ecological regime within the U.S. that configures the environment and practices of networked foragers today. From the private property lines you carefully avoid, to the Google Maps route that leads you to a public park—the land is indelibly marked by the desires of whiteness and capital.

Chapter 3

Getting situated: Related literature and research methods

In order to further demonstrate the “situatedness” of this research project (Haraway 1988), in this chapter I provide a brief literature review and overview of my methodological approach to address the central question of this thesis, which is: *How do people use digital media to learn about and practice networked foraging, and how do these practices differentially value and affect human and more-than-human bodies and landscapes?* As discussed in the previous chapter, networked foragers act within technological and legal infrastructures that have disproportionately harmed black people, Indigenous peoples, poor white people, and people of color. The values and relations of white supremacy, settler colonialism, patriarchy, and capitalism configure the environment and practices of networked foragers today. In this chapter, I turn from an exploration of the high-tech industry, private property system, and federal land ownership to briefly examine some of the ways in which racism, colonialism, and capitalism operate in cyberspace. Next, I provide an overview of the methodological approaches that I use in this thesis. To contextualize my methodology, I discuss the results of two thematic analyses I conducted using foraging-related posts on Instagram and Facebook. After explaining how I built datasets of posts from these two social media platforms, I describe the analytical approach I used to identify recurrent themes, and I explain how the results of these analyses informed the questions I asked my interviewees in subsequent semi-structured interviews. Finally, I summarize the research methods and approach that I used to identify, recruit, and interview my interlocutors from September through November 2021. I end the chapter by describing the process by which I offered my interviewees the opportunity to revise

their quotes from our interviews, as well as to share feedback or comments on a preliminary summary of the thesis, as well as the final version of the thesis. Overall, this chapter sets the stage for discussion of the results of my interviews in subsequent chapters.

Capitalism, colonialism, and whiteness in the digital landscape

As previously discussed in the Introduction, John Durham Peters' framework of infrastructural media views media as "enabling environments" that nurture many different life forms, including other media (JDP 2016, 3). JDP considers the environment itself as infrastructural media, as environments are "our infrastructures of being, the habitats and materials through which we act and are" (2016, 15). In this vein, the World Wide Web itself may be considered an environment. In recent years scholars have pointed out the ways in which capitalist and colonial logics have spatialized and commodified the web. For example, a number of scholars have explored the way in which the web evolved from a DARPA-funded project to become a primarily commercial space filled with paywalls and clickable ads (e.g., Greenstein 2017; Leiner et al. 2009; Frischmann 2001). Zook and Graham (2007) have discussed the ways in which Google's search engine and ranking system reorders the digital "commons" through its creation of "core" and "peripheral" spaces. More recently, Thatcher, O'Sullivan, and Mahmoudi (2016) have critiqued the ways in which private corporations that amass, buy, and sell big data participate in what they term "data colonialism" which commodifies and capitalizes on cyberspace.

Other scholars have noted the ways in which whiteness retains and reinforces its power in cyberspace. For example, Kanjere (2019) discusses the ways in which internet users mobilize discursive strategies of white innocence, color-blindness, and vulnerability in order to protect white privilege

online. Nakayama (2017) has noted the ways in which whiteness repositions itself to retain power on social media platforms through its use of interactive digital space, anonymity, and other digital affordances. Writing about the academy itself, Daniels (2013) brings attention to the color-blindness of white media researchers who fail to recognize the ways in which whiteness operates online.

Against this backdrop, JDP's framework of infrastructural media resonates powerfully with recent scholarship on "distributed blackness" by the interdisciplinary scholar André Brock (2020). JDP (2016) notes that sea-related metaphors are pervasive in cyberspace (e.g., we "surf" the web, resist "phishing" attempts, "log on" to a website), and connects this phenomenon with his observations of the Google campus in Mountain View, California (part of Silicon Valley), which features "large white statues of maritime explorers," suggesting the company itself as the "captain of a ship" (2016, 107). Raising the stakes of this provocative image, Brock (2020, 78, emphasis in original) writes about the ways in which web browsers shape the experience of using the internet, which may be analogous to the way in which humans navigate the sea on ships:

The browser—a banal technology if ever there was one given its invisibility as a mediator of information—structures the internet as an individual endeavor. That this individuality maps onto the accessibility of and access to content that is amenable to the information pleasures and needs of whiteness is not accidental. The internet's command and separation of space, time, and communication is the latest iteration of modernity's imputation of the *transcendence* of white racial identity, particularly with respect to enterprise, rationality, and command of the earth itself.

JDP's and Brock's work, along with other scholarly work discussed above, points to the ways in which large corporations like Google, Apple, and Meta are building digital tools and applications with which to navigate cyberspace in accordance with the motivations and desires of capitalism, colonialism, whiteness, and other dominant forces. Inspired by this theoretical framework, some of the questions

that remained with me throughout this project include: How might using the Google Chrome browser, Apple iPhone, and/or Facebook Messenger app delimit the experiences and interactions of networked foragers with humans and the more-than-human world? What other ways of perceiving and interacting do these technologies ignore, erase, or preclude? In subsequent chapters, I will begin to answer these questions. First, however, I take a bird's eye view of the networked foraging landscape.

Getting the “lay of the land”

At the beginning of this thesis project, one of my early questions was, *What kinds of foraging-related content do people post and talk about online?* To find out, I went on Instagram and Facebook to learn more about the digital landscape that networked foragers navigate and build through web browsing, posting digital content, and interacting online. To be clear, there are millions of foraging-related posts across a variety of social media platforms, including TikTok, YouTube, FallingFruit, Instagram, Facebook, Twitter, and Reddit. Due to time constraints, I decided to build a database of posts from just two popular social media apps: Instagram and Facebook. The thematic analyses I performed on these data are not intended to provide a comprehensive picture of all foraging-related posts online. Instead, my aim was to get a sense of some of the prominent themes that characterize public foraging-related content published on these two platforms.

To perform these two thematic analyses, I separately collected and analyzed two datasets of posts from Instagram and Facebook. The way in which I constructed each of these datasets was distinct. In mid-August 2021, I collected 400 public Instagram posts by searching for the most recent (at that time) public posts tagged “#foraging”. This sample size allowed for a confidence interval of approximately

95%. I used the hashtag #foraging as a filtering mechanism for selecting posts because English is the only language in which I am fluent and it is, according to the U.S. Census Bureau (2020), the most commonly-spoken language in the United States. Furthermore, the gerund form of the verb “to forage” was, by far, the most popular hashtag of any variation on the verb, with just over 1.2 million posts. The next-most-popular English-language foraging-related hashtags appeared to be #forage at approximately 515,000 posts, #foraged at 196,000 posts, and #forager at 193,000 posts, as of mid-August 2021. These posts were not limited to users in the United States, since I did not have the ability to filter posts by geographic region. Instead, the posts I collected were from English-language speakers and writers from around the world.

In order to build a dataset from posts on Facebook, I first identified a large public foraging group (over 10,000 members) that was geographically proximate to me, which would allow me to eventually meet in person with a couple of the group members for the purposes of participant-observation. I also chose a group that seemed to be relatively active online, with members posting and commenting continuously throughout the day. When I applied to join the group, I informed the moderators that I was a researcher at MIT interested in studying group members’ interactions and behaviors, and they approved my request to join. To collect the Facebook posts from this group, in early September 2021, I selected the 200 most recent posts that appeared on the group’s “Discussion” page. Because I did not have access to the group’s administrative dashboard to determine the total number of posts on the group’s page, I arbitrarily decided that 200 posts would be my initial sample. After completing my review of the 200 posts, I found that this number was likely sufficient, as many of the posts demonstrated similar themes. I effectively reached “saturation,” considering that my analysis aimed not

at a nuanced analysis but rather a more surface-level analysis of the types of foraging content that people post online (Braun, Clarke, Hayfield, Terry 2019).

Although each dataset was constructed with a distinct method, I used the same form of thematic analysis (TA) on both datasets. TA is an umbrella term for many analytical approaches that aim to identify themes in qualitative data, and scholars generally see two main approaches to identifying themes: “domain summaries versus shared meaning-based patterns” (Braun, Clarke, Hayfield, Terry 2019). Domain summaries tend to be summaries of qualitative data at the “surface” or semantic level, while meaning-based patterns look for both explicit and implicit meanings in qualitative data (Braun, Clarke, Hayfield, Terry 2019). Because I was constrained by time and already planned to explore deeper levels of meaning in semi-structured interviews, I followed the former approach for these thematic analyses. Using this approach, I sought to identify themes in my datasets that could help me understand the subjects and purposes of foraging-related content posted online.⁵ Additionally, for each of these groups of posts from Instagram and Facebook, I examined all of the comments (if any) of a randomly selected sample of 10% of the posts.

There were prominent, distinct themes that emerged among the posts I examined across both the Instagram and Facebook datasets. Below, I explore each of these themes and how these themes emerged in similar or different ways across Facebook and Instagram. Please note, many of the posts represented multiple themes rather than just one. For example, a post might demonstrate the “foray

⁵ This kind of analysis may be considered problematic by some decolonial scholars (e.g., Simonds and Christopher 2013), as the analytic process involves separating people from the stories and experiences they share.

experience” and “harvest” themes by including photos from a foraging journey, as well as an image of a basket of berries the user picked.

Foray experience. There many posts on Instagram and Facebook that depicted people on foraging journeys, or scenes of the landscape from their forays. The captions of images depicting foray experiences often referred to enjoying the company of family, friends, or pets while seeking out mushrooms, herbs, or other lifeforms. Some of the posts recalled memorable encounters with other species— such as arriving at a mushroom patch only to discover that slugs have already claimed many of the mushrooms, watching a troop of baboons foraging flowers from below on a mountain ridge, or lamenting the diminished availability of plums because parakeets had been feasting on them. These multispecies encounters offered compelling narratives of ecological relations that become evident during the practice of foraging.

Species identification. Another recurrent theme centered on species identification. Such posts often either stated or guessed the identity of a particular species the user had encountered (often accompanied by the scientific Latin name, such as *Cantharellus cinnabarinus*, or “Cinnabar-red chanterelle”). On the other hand, sometimes these posts requested identification about the species from viewers based on the posted image or video and sometimes other descriptive details in the captions. Species identification posts often generated more discussion on the Facebook group than on Instagram, perhaps because the Facebook group members had joined together out of an interest in learning (and/or teaching others) how to forage.

Toxicity / physical properties. Toxicity was another important theme, with much discussion around whether certain species were edible, not just in themselves, but as a result of close contact with

other species, like poison ivy, or due to their proximity to roadways or dog walking paths. Some users shared or requested information about the edibility of a particular species, likely hoping to avoid the wide-ranging and sometimes lethal side effects of consuming plants or mushrooms with certain properties. Others discussed certain properties of the foraged species, such as the presence of antioxidants in mushrooms, or the presence of anti-inflammatory compounds in an herb. Similar to species identification posts, toxicity-related posts often generated more discussion on the Facebook group than on Instagram.

Harvest. Some posts depicted a harvest, such as a hand holding foraged berries or a basket of mushrooms. The captions of these posts often communicated pride or pleasure in the harvest, sometimes emphasizing the beauty/aesthetic value, weight or volume, or free (costing no money) nature of the items foraged.

Seasonality. Seasonality was another common theme, with many users noting that a particular species (or multiple) was going in or out of season, often accompanied by at least one photo or video of the relevant species. These posts often encouraged others to go out and forage for the species mentioned.

Crafting. Posts that followed the crafting theme included multimedia representations of different craft projects undertaken with foraged materials, such as making wreaths, herbal remedies, jewelry, terrariums, alcohol, and prepared foods such as jam and pasta. Some of these posts discussed or demonstrated in detail the crafting process so that viewers could get a sense of how to practice the craft themselves.

Ad / promotion. There were many posts using the #foraging hashtag that were ads or promotions for certain products or services. Some of these posts were advertisements for psilocybin

(magic mushroom) edibles, public foraging tours, foraging gear (e.g., basketry, bags, knives), artworks, YouTube channel videos, fine dining restaurants, and foraging books. Others were promotions for local non-profit organizations that offer foraging-related information and services, such as workshops on preparing herbal remedies or grants for community food-related initiatives.

Gift / gratitude. Another recurrent theme was one of gratitude or receiving gifts, whether directly from the environment or indirectly from the environment through friends or family members who had gone foraging and offered foraged berries, mushrooms, or other items as a gift.

Conversation / reflection. Some posts invited others to chime in on a particular topic, or shared personal reflections relating to foraging. For example, one user posted a video that described how moved he was by a friend who had recently cried while eating mushrooms that were the same type she had once picked with her late father. Other posts shared ideas on the relationship between racial justice and the environment, while others discussed changes in the way they thought about the environment, such as redefining the concept of a “weed,” or discussing what it means to “belong to the land,” or musing about the relationship between dreams, imagination, and reality. Some posts were more playful, such as by inviting viewers to “spot” mushrooms camouflaged in the landscape pictured, or quizzing them on multiple species pictured.

The results of these thematic analyses informed the development of questions for my interviewees. Because species identification was such a persistent theme on Facebook and Instagram, I asked my interviewees about their process for learning about the environment, including which resources they referred to in the process. Noticing the significance of toxicity as a subject of conversation across Instagram and Facebook, I asked questions of my interviewees in regard to how they decided

whether to harvest and consume something they had foraged. The crafting, ad/promotion, and gift /gratitude themes inspired me to ask how people used the items they had foraged in their lives. The thematic analyses offered a preliminary sense of some of the topics or themes that were relevant to networked foragers. However, the semi-structured interviews, as discussed in the next section, allowed me to delve into networked foragers' deeper meanings, values, and internal conflicts that were not apparent on my Instagram or Facebook feeds.

Research methods and approach

In order to get a sense of the practices, norms, and values in networked foraging communities, I used an ethnographic approach which allowed me to collect and synthesize data from interviews, participant observation, and field research (Emerson, Fretz, and Shaw 2011). Between September and November 2021, I interviewed remotely over Zoom six members of a public Facebook foraging group based in the northeastern United States. During this time, I also interviewed over Zoom three Instagram users who regularly publish foraging-related content on their Instagram profiles and have relatively large audiences (between 10,000 and 70,000 followers, as of the time of this writing). The interviews were generally an hour in length, with some stretching up to a half hour longer. I also went on two participant-observation foraging journeys with a couple of the people I interviewed, with one journey lasting one hour and another lasting about two hours.

I deliberately sought out an intersectional group of interviewees representing a range of genders, races, ethnicities, ages, geographic areas within the U.S., and levels of foraging experience. Two of my interviewees were in their 20s, four were in their 30s, and three were in their 40s. Three individuals

identified as female, one as gender fluid, one as gender non-binary, and five as male. One individual identified as black with Borinquen ancestry, one identified as black and mixed race with Hispanic, Latinx, or Spanish ancestry, and seven identified as white. On Facebook, I selected individuals with a range of experience in the Facebook foraging group, some having joined within the past few months, while others having joined within the past couple of years or even earlier. On Instagram, I selected individuals with over 10,000 followers based on the assumption that these people considered themselves (and were perceived by their followers) as public figures. I used pseudonyms to allow my research participants to feel more comfortable reflecting on their experiences and feelings about group-based social dynamics and tech platforms.

I had a difficult time identifying and recruiting black people, Indigenous people, and people of color for this project. I speculate that some of the reasons for this could be (1) lower overall participation of people of these demographic groups in the public Facebook foraging group that I selected, and/or in networked foraging communities overall, (2) black people, Indigenous people, and people of color may have had less leisure time to devote to participating in an unpaid study due to systemic racism and socioeconomic and health inequities, or (3) lack of interest or trust in working with me, a white researcher, due to the intergenerational and contemporary traumas of white supremacy and settler colonialism. The absence of these people from this research study suggests that networked foraging communities (and research projects undertaken by white people) may in many cases fail to resonate with or be inclusive/accommodative of historically marginalized peoples. People with bodies that are under greater threat and/or subject to greater skepticism and critique may not desire to participate (or feel comfortable participating) in such groups or projects.

I used a semi-structured approach to the interviews I conducted, which varied by social media platform (Emerson, Fretz, and Shaw 2011). The interviews included both a common set of questions, as well as a set of questions specific to the use of Facebook or Instagram, depending on whether the interviewee was an Instagram user with over 10,000 followers or a member of the Facebook foraging group I had selected. In addition to the questions I mentioned in the previous section on the thematic analyses, I also asked questions of the Instagram users that would help me understand their motivations for posting on the platform, which factors influenced what and how they decided to post to Instagram, and what they hoped their audiences learned or took away from their profiles. For members of the Facebook group, I asked questions regarding the factors that led them to join the group, what experiences as a group member had been most or least helpful, and whether and how they used other digital media to discuss or learn about foraging.

After collecting my interview and participant-observation data, I went through and coded the transcripts and handwritten notes to identify key themes in the way people were describing their experiences and the processes they used to learn about foraging (Emerson, Fretz, and Shaw 2011). From these codes, I wrote initial memos that helped me identify patterns and key themes arising from the data (Emerson, Fretz, and Shaw 2011). After I had completed the first full draft of my thesis, I shared with each of my interviewees a summary of my analysis, along with the pseudonym and quotes I had selected to include in the thesis. I offered them an opportunity to revise their pseudonym and quotes, if they wanted, and I asked them for feedback on my analysis or additional thoughts (Boellstorff et al. 2012). I heard back from eight of the nine people I interviewed, and those eight approved of my analysis and the quotes, with several minor changes to wording and one change of pseudonym. One individual (Roy)

provided feedback correcting a detail about how mushrooms develop, and I edited the draft accordingly. After I completed the final draft of the thesis, I sent the document to my interviewees for a final review. I offered them the opportunity to share critical feedback/comments on the thesis as a whole (which I would have included in the appendix) but none of them took me up on the offer. I was surprised not to receive critical feedback, and skeptical that the eight people who got back to me fully approved of my analysis and arguments. I wondered whether my gender, race, or affiliation with an elite research institution may have affected their willingness to critically respond to this work.

In the course of conducting this thesis project, I worked to recognize and question colonial, racist, and capitalist influences on my usual academic research and writing methods. I found many wise teachers within the field of Indigenous studies, science and technology studies (STS), and postcolonial studies (e.g., TallBear 2014; Tuck and Yang 2014; Kolopenuk 2020; Precarity Lab 2020; Liboiron 2021). I was inspired, in particular, by the way in which the Precarity Lab (2020, 13) “live[s] the contradictions” of doing postcolonial academic work while on unceded First Nations land in Banff, Canada and with funding from the natural resource extraction industry. Similarly, this thesis project was funded by MIT, which was built on land that is the traditional unceded territory of the Wampanoag Nation. Throughout the research process, I used an Apple iPhone and Macbook Pro, Google Workspace applications, Meta applications, and Amazon services. At the same time that I was working to critique high-tech corporations and legacy infrastructures of settler colonialism, white supremacy, and capitalism, I was complicit in sustaining their power.

Conclusion

As discussed in the previous chapter, racism, colonialism, and capitalism form an ecological regime that structures the “natural” environment in particular ways. This chapter explores how dominant forces like these structure digital environments through the design and development of web-based applications, browsers, and commercial websites with paywalls. With an understanding of some of the ways in which these systems shape the web, I undertook two thematic analyses of Facebook and Instagram posts, respectively. These thematic analyses enabled me to get a sense of the digital landscape that networked foragers navigate and build online. I found that the following themes characterized much of the foraging-related digital content on these platforms: foray experience, species identification, toxicity / physical properties, harvest, seasonality, crafting, ad/promotion, gift/gratitude, and conversation/reflection. These results informed the questions I asked my interviewees in subsequent semi-structured interviews. The semi-structured interviews with my nine interviewees, as I will discuss in the following chapters, allowed me to delve into networked foragers’ deeper meanings, values, and internal conflicts associated with some of these themes. Finally, at the same time that I was working to understand the ways in which capitalism, colonialism, and racism operated among networked foragers, I was also grappling with the ways in which these forces shaped this research project. In particular, the fact that I am a white, female researcher at an elite university may have affected who was willing to participate in this project, as well as what participants were willing to share with me.

{ Interlude 2 }

Cambridge, Mass. — It's September 23, 2021, a Thursday, and “trash day” on my street. I was wheeling the newly-empty recycling bin from the street to my backyard when I noticed three pale mushrooms just barely peeking out of the damp earth in my yard. I had learned on the Facebook foraging group page that in New England, one could expect a flush of mushrooms in the days following rainfall, so I had



Figure 4. The mystery mushroom.

been keeping an eye out for tiny growths around my neighborhood after a recent storm. Crouching down, I took a closer look at the three mushrooms in my yard. These were about two inches tall, with white stalks and speckled caps in beiges and yellows. The species looked familiar. Excited, I prodded one of the mushrooms to get a sense of its texture and sturdiness. The mushroom was fleshy and cool to the touch, and firmly seated in its spot. Without thinking, I gently grasped the mushroom's cap and pulled, and the mushroom came up relatively easily, still grasping a clump of dirt at its base. Only after I had pulled up the mushroom did I remember reading online that you're supposed to harvest mushrooms by slicing them off at their base, which leaves the mycelium intact. Feeling guilty, I resolved to remember that the next time I went foraging.

With my iPhone, I snapped a quick photo of the mushroom laying on the ground. Recently, there had been photos of similar mushrooms posted to the Facebook foraging page, which had been

identified by members of the group as *Amanita rubescens*. Wait, I thought—*Amanita*. I remembered hearing that there were mushrooms in that genus that could be deadly to humans. Did that mean there might now be toxic substances on my fingers? After gently placing the mushroom back on the ground next to the others, I hurried inside and washed my hands. I tore off a sheet from the roll of paper towels in the kitchen and went back outside. Crouching down again in front of the mushroom, I picked it up with the paper towel, brought it inside, and laid it down on my kitchen table.

I did a quick Google Image search of “*Amanita rubescens*” to try to figure out whether the mushroom was a member of that species. A wide range of images appeared in the search results, and the more images I saw, the less certain I was of the species identification. The coloring, shape, and texture of the mushrooms varied so much, I couldn’t easily recognize many of their commonalities, or if the pictures were even accurately identified as *Amanita rubescens*.



Figure 5. Mushrooms tagged as *Amanita rubescens*, from First Nature, iNaturalist, and Flickr.

According to First Nature’s website, the *Amanita rubescens* is also referred to as the “Blusher” because, when its flesh is damaged or cut, the flesh turns from white to a pinkish red. I took a paring knife out,

sliced the mushroom down the center, and waited to see if there was any change in the mushroom's color. The flesh seemed to remain a pale beige. Looking farther down the website's description, First Nature noted that Blushers don't have a distinctive smell unless they become infested by maggots, which will make them smell "quite unpleasant." I sniffed the mushroom carefully, and I could not make out a distinct aroma. It just smelled vaguely earthy. I wasn't sure what to make of First Nature's guidance, so I pulled out my iPhone and opened the Seek app, which is made by iNaturalist. Selecting my photo of the mushroom from within the app, I asked Seek to identify the mushroom. The app assessed the image, and then displayed this message: "We believe this is a member of the genus Amanita Mushrooms. But Seek couldn't identify the exact species." Sighing, I exited out of the Seek app and opened the Shroomify app. It guided me through a series of questions about the mushroom's "type" (gills, pores, teeth, morel/saddle, etc.), cap color, cap shape, and cap width, and gill attachment. I had to try multiple search filters, including both "yellow" and "white" for cap color because my mushroom seemed to fit both categories. I also tested several different gill attachment options because I wasn't sure which one matched my mushroom.

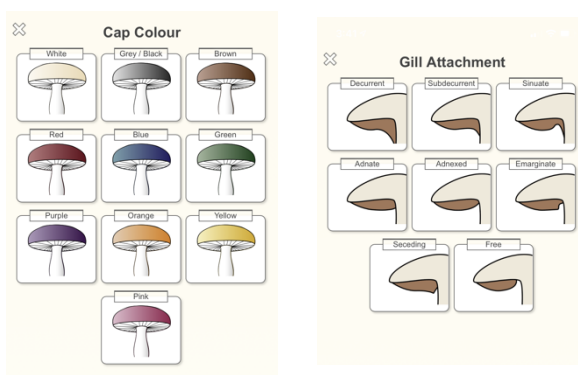


Figure 6. A couple of screenshots from the Shroomify app "Identify Fungi" guide.

None of Shroomify's results seemed like a likely match for the mushroom in front of me. I noticed that some of the mushrooms listed in the app's results page were labeled "edible and good," or "choice," while others were marked as "unpalatable," "caution," "inedible," or "deadly." How were mushrooms categorized along these lines, and who did the categorizing? Surely some "unpalatable" mushrooms must be tasty to someone on earth, while ingesting "edible and good" mushrooms might lead some to have an allergic reaction.

After looking through the Google Images, Seek app, and Shroomify app, I felt confident that I would not be able to identify this mushroom species without help from another human, and possibly without watching the mushroom continue to develop and mature. I composted the mushroom I had brought inside, but I kept a watchful eye on the remaining two in my front yard. Over the next day or two, they seemed to grow slightly larger. However, they disappeared shortly thereafter. I wondered, if another creature had eaten them, did the creature survive?

Chapter 4

Orienting and identifying: “Skilled vision” and Western technoscience

From zooming out on a Google Map until they find a nearby “nice, big, green patch,” to making a spore print with a sheet of paper, networked foragers use a variety of technologies and techniques to orient themselves within their local environment and learn to identify new species. Among my interlocutors, reliance on digital technologies is widespread, irrespective of one’s degree of foraging expertise. For these individuals, digital technologies are integral to the process of developing and teaching multi-sensory “skilled vision,” (Grasseni 2004) the interpretive lens through which networked foragers perceive and make sense of the world. For these networked foragers, this type of skilled vision represents a new and highly attuned form of environmental awareness that is attentive to the sight, smell, sound, taste, texture, and time scales of more-than-human forms of life. For members of the Facebook foraging group whom I interviewed, I found that this type of skilled vision is largely produced through the guidance of (1) web-based applications such as Seek by iNaturalist and Google Maps and (2) Facebook foraging “experts,” who may be disproportionately white and/or affluent people with the time and resources to serve as volunteer “experts” online. By exploring the ways in which the embodied practice of foraging is mediated by digital technologies and Facebook foraging “experts,” I posit that some networked foragers’ perceptions and understanding of the world may be limited by perspectives and classificatory systems with roots in colonialism and primarily coming from a certain privileged demographic group. To explore possible alternative perspectives, I briefly discuss Indigenous traditional ecological knowledge and approaches to relating to the more-than-human world.

Learning your land & getting started foraging

Among the people I interviewed, motivations for foraging varied widely. For some, an interest in foraging emerged out of a growing awareness of—and curiosity about—the local environment. Several people reported going on a hike and noticing colorful mushrooms they couldn't name popping up along the trail, while one person had a child who kept asking questions about the edibility of forest produce, such as, *can you eat acorns?* Some of my interviewees' interest in foraging was motivated by worries about socio-political instability or the possibility of apocalyptic events (in some cases, inspired by the onset of the COVID-19 pandemic), which would make foraging skills vitally important. Many of the people I spoke with had foraged occasionally as children—it was something they did without thinking much about it, whenever they happened upon clusters of wild blackberries or other foods that looked tasty to them. However, all of the people I spoke with seemed to practice foraging today as an intentional, disciplined activity that required the development of particular skills.

Among my interlocutors, a key first step in the process of becoming a forager involved becoming acquainted with one's local environment and assembling resources that provided foraging-related information. Adam (42 years old, white, male, he/him), who is a member of the local Facebook foraging group I studied, was inspired to start foraging during the pandemic when he realized that he lacked certain “survival” skills that would allow him to take care of his family, if necessary. Adam referred to a variety of resources as he learned more about the land around him, including field guides, websites, foraging apps, Facebook groups, survival reality TV shows (e.g. “Alone”), and a YouTube channel published by Adam Haritan called “Learn Your Land.” Adam explained that, for him, foraging involves building a personal toolkit that can offer a range of information: “There's not one tool, there can't be

one tool—not a guidebook, not a person, not an app, not a website that can say, we have everything. It’s just not possible.” Similarly, the Instagram user Luke (32 years old, white, male, he/him) also described referring to a variety of media for information about foraging, including field guides, online chat forums, Instagram, and Facebook groups. Luke began to seriously pursue foraging during his last semester in college, when he began taking Ojibwe language and culture classes to connect with his heritage. Others, including the Instagram user James (27, black and Borinquen, male, he/him), attended formal educational programs to learn about mycology and permaculture after he became anxious about environmental contamination and societal collapse while on psychoactive drugs. Still others, such as Natalie (37, white, female, she/her), went on a tour with an experienced forager to learn more about the practice, and when the pandemic hit, she found herself with ample time in which to walk around her neighborhood and learn more about the local plants.

Although all of my interviewees referred to non-digital media in the process of foraging, digital media played a uniquely powerful role for all of the people I spoke with, irrespective of their foraging background. Digital technologies offered instantaneous, accessible information about many different subjects and enabled speedy communication across large distances. This finding is hardly surprising and certainly not generalizable to the broader population of foragers in the U.S., as I selected my interviewees on the basis of their use of the popular social media platforms Facebook or Instagram. This point is worth noting, however, only insofar as it suggests the extent to which digital media is part of the fabric of life and integral to foraging practices and communications among the networked foragers I interviewed.

Two of the social media platforms owned by Meta Platforms, Inc.—Facebook and Instagram,

but especially the former—serve as important resources among my interlocutors. Luke, an Instagram user, said that Facebook was essentially “Grand Central Station for the mushroom groups,” suggesting that, in his view, it serves as an important hub of activity among people interested in talking and learning more about mushrooms. Luke continued by explaining that on Facebook, “The mushroom foraging groups, the mushroom ID groups, the plant foraging groups, and the plant ID groups are, I’d say, an indispensable resource.” Many of the other people I interviewed emphasized the importance of Facebook groups in learning how to forage, for reasons ranging from access to foraging experts, speed of communication, ability to form affinity groups for specific interests (e.g. Bolete mushrooms), and ability to share videos, photos, and instant private messages, among other features. My interlocutors seemed to appreciate having the ability, too, to hone in on what was relevant to them and filter out what was irrelevant. For example, Bryn (29, white, gender non-binary, they/them), motivated by an interest in learning survival skills, talked about starting a Facebook group for foraging that specifically excluded posts related to the hunting of animals. Teresa (48, black and mixed race, female, she/her), who grew up foraging in the Dominican Republic, told me she is also a member of a group that is dedicated to mushrooms belonging to the *Boletus* genus. Amber (33, white, female, she/her), who foraged as a child in Connecticut and became “all in” on practicing foraging after seeing Alexis Nikole Nelson’s foraging videos, reported belonging to a Facebook foraging group dedicated to her U.S. state. Amber is also a member of a foraging group specific to the broader region in which she lives, as well as a group dedicated to mushrooms that can be found in the state where she lives. In this way, networked foragers are able to build online worlds for themselves with individually-customized selections of foraging content and educational materials.

For some, the internet is their primary source of information about the outdoors. For example, James described to me how Facebook served as the window onto the world through which he learned about the environment, since traveling and spending time outside was too costly. As he put it, dryly, “you go outside and you can spend \$100 just from blinking your eyes.” He described looking at pictures on Facebook as the primary way in which he learned about the environment and how to forage. James’s experience underscores the power that the platform has, for some, in its role as an online social forum and publisher and conduit of environmental media. Additionally, many of the people I spoke with recalled becoming aware of particular species that were “in season” because they showed up “a million times” in their Facebook news feed.

Another popular social media platform owned by Meta is Instagram, which seemed to be used primarily as a source of inspiration and knowledge-building, rather than group-based social interaction. Many people I interviewed indicated that they followed a variety of popular foragers on Instagram, particularly Alexis Nikole Nelson (@BlackForager). Such content inspired many of my interviewees to look out for particular species or experiment with new crafting or cooking techniques that they saw demonstrated online.

In addition to Facebook and Instagram, many of the people I interviewed made extensive use of products owned by Alphabet Inc., including a variety of Google products and services, such as Google Search, Google Images, Google Maps, Google Lens, and YouTube. Amber, a member of the Facebook foraging group, found Google Maps to be useful, in particular, for clearly defining property boundaries. Additionally, Bryn described using Google Maps to locate a “nice, big, green patch” of parkland nearby where they might find a “maximum” level of biodiversity. After browsing the park website, Bryn

eventually walked over to the park to forage.

Other networked foragers emphasized the importance of learning about the local environment and particular species from close, in-person observation over relatively long periods of time. For example, Casey (45, white, male and gender fluid, he/she/they) who has a large following on Instagram and learned about foraging through their grandmother and female writers, described conducting close observation of a “local milkweed population” in the field for several years before beginning to harvest milkweed.⁶ During this time, they took note of the many insects that also fed on or used certain parts of the milkweed in their life cycles. Exasperated with what some of the behaviors they observed of other foragers,

[A lot of people are] just taking pictures of things, they're showing up on Instagram and they're going, “Oh, I can eat this, okay, great I'm gonna eat this.” No, no, no, don't do that, don't rush into it. Look at the thing, study the thing. You know, give it some time.

For Casey, patience and close observation over a long period of time are essential skills for foragers to develop, and not necessarily skills that many new networked foragers think to develop or that, in Casey's experience, are often communicated online.

Based on the ways in which my interviewees described coming to learn about foraging and their local environment, it seemed that the internet was often a dominant source of information. What these networked foragers saw online had significant influence over what they perceived as available and in-season in their area. Additionally, the ways in which the local environment was represented to them through Google Maps and other digital mapping applications shaped to a certain extent the way in

⁶ Milkweed plants can cause serious poisoning of humans. Please see <https://www.poison.org/articles/milkweed-can-cause-serious-poisoning-204>.

which they navigated the outdoors, whether by avoiding property boundaries as shown online, or by seeking out “nice, big, green patches” located nearby. What seemed to be emphasized less often was the kind of close observation over long periods of time that Casey described performing in their own practice. Casey acknowledged that it takes great patience to learn about how other species interact with a plant like milkweed, as well as to monitor a local plant population’s pattern of growth over time. Such an approach calls for spending a great deal of time in person with the species one is interested in foraging, developing a kind of familiarity and knowledge that may not often be possible through the use of digital media like Facebook and Instagram. However, such an approach is not always feasible, as it may be too costly for some to devote so much time, energy, or money to traveling outdoors.

Developing “skilled vision” to identify species

After becoming acquainted with one’s local environment, there seemed to be a consensus among my interlocutors that a key first skill to develop as a forager is to learn how to identify particular species, which involves the ability to name discrete living beings that make up the environment. Among my interlocutors, the Linnaean taxonomic system’s Latin binomial nomenclature seemed to be the undisputed standard for determining the identity of a particular organism (e.g., *Homo sapiens* refers to the modern human genus and species, respectively), with common names used to refer to species in a more colloquial way (e.g., “eastern poison ivy” instead of *Toxicodendron radicans*). Consistent with Griesemer and Star’s (1989) concept of a “boundary object,” Latin binomial nomenclature serves as an organizing infrastructure across different social, cultural, and professional communities at a variety of scales. Among the six individuals I interviewed who belonged to a public Facebook foraging group based

in the northeastern United States, part of the process of developing foraging skills as a member of that group involved learning how to identify a range of species using this system. This finding is consistent with other studies of the essential, taken-for-granted infrastructures of communities of practice (Lave and Wenger 1991; Star 1996; Star and Ruhleder 1996; Star 2010).

The Linnaean taxonomic system, however, has been contested throughout history (e.g., Ereshefsky 2000). In the mid-18th century, it was one of many rival taxonomic systems at a time when colonists and botanists were working to impose order and control over many different territories around the world (Lafuente and Valverde 2005). The Spanish Crown ultimately selected the Linnaean system to become its standard classification system. According to Lafuente and Valverde (2005), the Linnaean system was ideal to the Spanish Empire and its colonies because of its efficiency and disregard for local climate and soil conditions in favor of making claims about the universal and “natural” order of the world. In this way, the Linnaean taxonomic system was an imperial technique for organizing and controlling environments around the world. Although the international taxonomic system has evolved considerably since the mid-18th century, the Linnaean system continues to have lasting influence around the world (Godfray and Knapp 2004).

The process of learning how to identify species according to the Latin binomial nomenclature system is a profoundly embodied practice, and one in which digital technologies play peripheral, though significant roles. There seemed to be a consensus among my interviewees that digital technologies, including smartphone apps that use artificial intelligence, are not yet sophisticated enough to be able to reliably and accurately identify species. Unable to exclusively rely on technological devices in the practice of foraging, these networked foragers shared a common, implicit belief that the task of species

identification involves the training of the mind and the senses. The concept of “skilled vision” as an “embodied, skilled, trained sense” (Grasseni 2004, 41) is a useful one for understanding the way in which beginner foragers learned how to identify particular species. Building on Mauss’s ([1935] 1979) concept of “body technique,” Grasseni proposes that skilled vision involves a multi-sensory, “active search for information from the environment” which can integrate sensory manipulations (2004, 51, 53) such as touching or biting, in the case of foraging. Invoking Ingold’s (1993, 158) concept of “taskscape,” Grasseni argues that through apprenticeship and active practice, one can achieve an “education of attention” and “attunement of the senses” through developing a particular regime of perception (Grasseni 2004, 53). These ideas resonate well with how my interlocutors describe learning how to identify new species when foraging. More advanced peers on Facebook often teach beginners how to notice or manipulate a particular organism’s parts or features as a way of ascertaining its species classification, such as by making a spore print, cutting a mushroom in half, looking at the gills, or smelling it. Even more advanced members of the group who help teach the beginners, like Adam, continue to hone their foraging skills by continually learning from—or being reminded by—other group members. As Adam put it:

Sometimes, you know, other moderators will be like, “Well, did you smell it?” I didn’t, let me go do that. So we remind each other. In a way, the community on Facebook is... self-teaching and self-correcting where it will show you what you’ve done wrong because people will say, “Hey you didn’t consider this.”

Another important component of developing skilled vision as part of this Facebook foraging group involves learning how to properly photograph an organism and ask others what species it might be. One does not simply take a quick snapshot of a plant and upload it to the group to ask what species

it is. Instead, beginners are instructed to take specific kinds of photographs, depending on the organism being photographed. This phenomenon is not limited to just the one Facebook foraging group I studied; it appears that other Facebook foraging groups also codify photo-taking and information-sharing practices for the purpose of identifying species. For example, Bryn observed,

I always take a picture of the thing in its natural environment. I get the surrounding area to show what kind of tree it's on or under, what's the, like, general area—is it field, is it forest, is it swamp, whatever. Then I get up close shots of the thing itself. If it's a plant, you know, get leaves, get stem, get berries, get flowers, whatever. If it's a mushroom, you know, get top, underneath, stalk, what's it growing by, as many things as I can get.

In Bryn's experience, taking a variety of photographs showing the ecological setting and anatomical structure of the species is important for identification purposes. On the other hand, Teresa, who belongs to the same foraging group as Bryn but is also a member of a Facebook foraging group dedicated to mushrooms belonging to the *Boletus* genus, described other types of photos and information that members of that group are expected to provide in order to receive help in identifying a species:

You have to have a picture of the top [of the mushroom], you have to have a picture of the bottom, you have to have a picture of the stem attachment, you have to slice your mushroom and take a picture of the inside, and you have to have a picture of the bruising pattern. And then you have to post where you found it, very specifically. And you have to also record the “time to bruising.”

In the context of learning how to forage using social media, the development of skilled vision entails not just the active search for information from the environment, but also the development of technical skills in photographing other living beings and recording particular properties of those beings. These properties, to be variously photographed, recorded, and shared on Facebook, effectively provide “structures of relevance in the material environment’ that shape perception and allow the sharing of a code of practice” (Grasseni 2004, 43; Goodwin 1994, 610, as cited in Grasseni 2004).

My interlocutors reported that, in general, misidentifications are corrected by “experts” within the Facebook foraging group, who support their claims by pointing out the organism’s properties that correspond to the reference species. Additionally, species identifications may be confirmed by these “experts” who can provide additional sensory means of validating an identification, such as by tasting or biting a mushroom to confirm that its taste and mouthfeel correspond to the reference species.

According to several of my interlocutors, learning how to identify new species helped them see the world anew. Some of them began to see particular species “everywhere,” notice more subtle characteristics of the species, and differentiate more easily between different organisms of the same species. Some of my interlocutors reported developing a kind of “sixth sense” for where they might find particular species, given particular environmental conditions. Along these lines, O’Connor (2005) invokes Bourdieu’s concept of the *habitus* to explain the way in which a novice’s body is restructured around a practice. Through a stream of adjustments, one develops a “system of dispositions” (O’Connor 2005, 132) that can anticipate the rules of a practice. For example, Tsing (2015) describes the way that one might sense the presence of a matsutake mushroom through a combination of being near pine trees, smelling a distinctive aroma, and noticing a slightly raised mound in the dirt. In the context of my project, Natalie noted that she started to change her walking route around her neighborhood to travel near places where she might “find something.” Similarly, on a foraging journey with Adam in western Massachusetts, I watched as he scouted out a remote location along the edge of a reservoir near some trees, thinking that there might be particular mushroom species fruiting there. Likewise, Amber, an experienced gardener and forager, described to me how she predicts where to find blueberries. She said she will “look up lakes in my area that have trails around them that are still wild,” and she will search for

blueberries around the edge of the lake where there is likely to be a lot of sunlight. Amber's blueberry foraging method involves recognizing the relationships between species and particular ecological settings. These examples highlight the ways in which becoming a skilled forager involves training the body and mind to anticipate the distinctive sensory characteristics, patterns of behavior, and vital needs and preferences of other species.

Taken together, these findings indicate that developing skilled vision toward the goal of learning how to identify particular species was an important aspect of group membership among the individuals belonging to the Facebook foraging group that I interviewed. This process of developing skilled vision involved learning key technical skills, like how to properly manipulate a particular organism and record its properties, including by taking certain kinds of photographs of the organism. The apparent culture of this group raised questions, for me, regarding access and representation. When a group such as this one organizes around the development of a relatively narrow set of foraging skills—steeped in the Linnaean binomial nomenclature system and the use of smartphones—in order to apprehend other beings, I wonder what other approaches to foraging and ways of relating to other species are foreclosed. I also wonder what foraging-related ideas and experiences are not represented in the group, since the group's culture may have a bias in favor of including white, affluent people who know about and use Western, colonial science and technologies.

Determining whom to trust

Among the people I interviewed, there were commonalities in the way they described identifying sources of authority and deciding whom to trust online. First, several individuals I interviewed described

developing heuristic techniques for determining when a species identification was right or wrong. These individuals decided that when, say, seven people agreed on a species identification, then most likely that ID was correct. The people I spoke with had a range of thresholds for the number of people from whom they sought consensus.

Some of my interviewees described keeping tabs on other networked foragers in the Facebook group to get a sense of how knowledgeable others were, and whether other people seemed to agree with their ideas or not. Bryn and Amber explained how they perceived people who offered very detailed information about particular species as likely possessing expertise. As Bryn put it, such people might say, “Oh this mushroom has gills that just stay on the cap, and this one has gills that go down the stem, and this one has hairs when it’s young.” In Amber’s experience, a group of experts “gave me one more tip that I hadn’t known before, that the gills [of a chanterelle mushroom] split at the end, or something like that, and so I was like, oh okay, these people know what they’re talking about.” This kind of detailed knowledge about particular species’ visual characteristics through their life cycle can serve as strong signals of expert status, to some networked foragers.

On the other hand, some of the people I spoke with talked about the mixed signals that social media platforms can sometimes send in regard to who has expertise or authority. For example, Luke, an Instagram user with a large following, discussed how some of his followers began to see him as “more knowledgeable” when they noticed how many people followed him. Luke observed,

I’m still the same source of knowledge.... It’s very weird. It’s positive in this case, because I’m going up [in terms of the number of followers], but it could be negative in a case where someone knows a lot, but they don’t have a lot of followers or something, which is totally meaningless.

As Luke notes, the number of followers a networked forager has on a social media platform can shape

perceptions of their authority and expertise. Regardless of what they each know about foraging, someone with a large following can appear to be very knowledgeable, while someone without a large following may appear not to know much at all. Similarly, Roy (39, white, male, he/him) an experienced forager and Facebook group moderator, told me about his techniques for assessing the foraging expertise of others on Facebook. Roy originally became interested in foraging through his interest in geocaching⁷ while he was working to become sober. Roy noted that Facebook “badges” are assigned by members of group administration to convey the expertise or authority of administration members and distinguish them from those with less experience or power within the group. As Roy put it:

If anybody with one of those badges in a mushroom identification group tells you information about a mushroom, that has a lot more weight than just a random person that doesn't have a badge. But that's not saying that the random person that doesn't have a badge doesn't know what they're talking about. Ninety-five percent of the time, they don't know what they're talking about. But it has to do with learning names and learning who people are.

Roy further elaborated on how he assesses the expertise of others, including by watching “who's helping people, who's backing up their claims with evidence and links to papers or websites... to confirm what they're doing.” These points that Luke and Roy make in regard to authority and expertise on social media platforms raise questions regarding who gets to be included as an expert within online foraging spaces. In what ways might the process of building power within online foraging spaces be differentially accessible across different demographic groups? In other words, might the leadership of foraging groups on Facebook tend to favor people who are white, affluent, and who know about and use Western science and technologies? Such individuals may be more likely to have the leisure time and skills to build an

⁷ Geocaching involves using GPS to store away and locate hidden caches around the world.

“authoritative” online persona and volunteer one’s expertise and time without compensation.

People who are perceived as authority figures within digital foraging spaces can have an outsized influence over others, sometimes in ways that they do not foresee. Miscommunications can arise when people use information about foraging that they find online in ways that the people who posted them did not intend. For example, Casey, another Instagram user with a large following, described how their Instagram posts, which were meant to convey their foraging experiences in a diaristic way, were instead sometimes used to ID species instead. Casey disapproved of the use of their photographs in this way, saying, “photographs don’t really tell you the story.”

Some networked foragers with large followings, such as Alexis Nikole Nelson (@BlackForager) and Gabrielle Cerberville (@ChaoticForager), came up again and again in my conversations as part of this research project. For example, when I went foraging with Bryn, they showed me a video from the @BlackForager Instagram profile that featured a Yew shrub growing near Columbus, Ohio (Nelson 2021b). We found many shrubs of the same species in Cambridge, and we decided not to eat any part of it after Nelson warned that much of the plant is toxic to humans. As we experienced, the influence some networked foragers have over others changes how people perceive and interact with other species. It is worth considering who gets to be in such positions of power, and how they gain that authority.

Some additional possibilities for skilled vision

In her book, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*, botanist and enrolled member of Citizen Potawatomi Nation Robin Wall Kimmerer describes

approaching a cluster of leeks to ask whether she may harvest some of them, according to the Indigenous principles of the “Honorable Harvest”:

The dense patch of leeks are among the first to appear in spring, their green so vivid that they signal like a neon sign: PICK ME! I resist the urge to answer their call immediately and instead address the plants the way I’ve been taught: introducing myself in case they’ve forgotten, even though we’ve been meeting like this for years. I explain why I’ve come and ask their permission to harvest, inquiring politely if they would be willing to share (Kimmerer 2020, 170).

Kimmerer describes how she “listens” for the leeks’ consent: she only hears a “yes” when it is obvious to her that the leeks are thriving sufficiently to be harvested, and when the leeks display a “sense of generosity, an open-handed radiance that says *take me*” (Kimmerer 2020, 173). This form of listening requires both an analytic assessment of empirical data, as well as her own intuition, built over many years of coming into close contact with the land (Kimmerer 2020). In this case, Kimmerer (2020) observed that the leeks were not abundant, so she did not harvest them. Being accountable for what you “hear” is a vital part of listening (Kimmerer 2020) and could expand the set of possibilities and moral responsibilities associated with skilled vision.

Relatedly, in his monograph *How Forests Think* (2013) anthropologist Eduardo Kohn, who conducted ethnographic research among the Runa people of the Upper Amazon in Ecuador, writes about what it means for the Runa to live within an “ecology of selves” in which more-than-human forms of life are recognized as people, too. Borrowing the term “soul-blindness” from Cavell (2008, as quoted in Kohn 2013) who used it in the context of humans failing to see other humans as persons, Kohn uses this concept to interrogate his own ethnographic research methods. He writes,

Bodies are multiple and mutable, and the human body is only one of many kinds of bodies that a self might inhabit. What kind of anthropology can emerge through this form of defamiliarizing the human? (Kohn 2013, 125).

To Kohn, being “soul blind,” whether one is a human, jaguar, turtle, or another creature, means not being able to differentiate other animals from the surrounding environment—a blindness that can sometimes mean the difference between life and death. Kohn’s work is part of a broader shift—inflected by posthumanism—within the field of anthropology to decenter the human in consideration of the perspectives and experiences of other species. So-called “multispecies ethnography” makes legible the “biographical and political lives” of other species entangled with human lives (Kirksey and Helmreich 2010).

More recently, Reo and Ogden (2018) have conducted research with Anishnaabe indigenous communities to understand how Anishnaabe conceptualize invasive species in relation to colonialism. They found that Anishnaabe tend to think of plants and other life forms as assembling into “nations” rather than “species,” and as “migratory” rather than “invasive.” Their approach opens up new ways of thinking and talking about the origins and purposes of more-than-human forms of life that step away from colonial-inflected terms like “alien” and “invasive.”

Taken together, recent work by Kimmerer, Tsing, Kohn, Reo, and Ogden light the way toward additional possibilities for seeing and responding to the land. The networked foragers in the Facebook group I observed could develop more relational and responsive capacities in their skilled vision praxis, if they were to consider these perspectives.

Conclusion

The networked foragers I interviewed practiced foraging for a range of purposes, in different ways, and with unique constellations of techniques and technologies. Yet, their experience as members of the

Facebook foraging group I studied suggested that, for them, a common experience of learning to forage using social media involved learning what was available and “in season” locally by noticing what came up a “million” times in their Facebook news feed or by finding nearby parks on Google Maps and visiting them. For all of the people I spoke with, irrespective of their level of foraging experience, digital technologies are integral to the way in which they communicate, share information, and learn about foraging and the environment. This finding is not surprising, and certainly not generalizable, since research participants were selected on the basis of using Facebook and Instagram for foraging purposes. However, this finding is useful insofar as it suggests that, for the networked foragers with whom I spoke, the use of digital technologies remains relevant even after developing familiarity with the practice of foraging in their local environments.

For my interviewees who belonged to the Facebook foraging group, developing foraging skills involves cultivating skilled vision by means of learning particular technical skills, such as how to properly manipulate an organism and record its properties, including by taking digital photographs of the organism in specific ways. Cultivating skilled vision in this Facebook group also involves identifying life forms in the landscape and communicating with other networked foragers using Latin binomial nomenclature. The ability to effectively use digital technologies and binomial nomenclature, ask informed questions, and develop online personas, may be central to gaining status within this community.

There are many alternate ways of perceiving and interacting with the environment that do not seem to be represented within this Facebook group. The work of Indigenous, feminist, and multispecies studies scholars demonstrates other possibilities. These possibilities include developing skilled vision

that recognizes the ecology of selves within the more-than-human world and strives to interpret the well-being and needs of other life forms.

Chapter 5

Harvesting and consuming: The biopolitics and ethics of foraging

The scenario is a timeless one, and may seem unremarkable: a human spots a mushroom nestled against a tree, plucks it from the earth, and later cooks and eats it. However, underlying this simple narrative are consequential power dynamics between the consumer and the consumed, with a range of social, biological, and political implications. One living being eating another enacts particular forms of power—the power to claim and consume another form of life. At the same time, the consumer is physiologically transformed by the one being consumed, sometimes in ways that fail to support the consumer’s flourishing and can even have life-threatening consequences.

Using Heather Paxson’s (2008) framework of “microbiopolitics,” which extends Michel Foucault’s (1978) theory of biopolitics, this chapter investigates some of the biopolitical and ethical implications of networked foragers’ practices of harvesting and consuming foraged items. In this chapter, I discuss the ways in which my interviewees described deciding what to harvest on their foraging journeys, with a focus on discussions around “edibility” and “toxicity,” as well as various techniques for evaluating these properties. I also discuss the ways in which networked foragers communicated online about the ethics of foraging. Overall, I found that some networked foragers are using their bodies and foraged foods as biotechnologies with which to intimately connect with the land, develop new relationships, and maintain local ecosystems. I raise concerns in regard to the way in which online interactions regarding the ethics of foraging may, in some cases, foreclose difficult but generative conversations about foraging ethics and the needs of more-than-human forms of life. I argue that

foraging is a practice of world-making and “becoming-with” other forms of life— through foraging, we transform ourselves and our ecological communities (Haraway 2008). Developing methods for “political listening” (Tsing 2015) and nurturing respectful, candid conversation about ethics among foragers is vital to identifying and pursuing common agendas within our ecological communities.

Assessing toxicity

When it comes to determining whether and how to harvest and consume something, questions around a particular species’ “toxicity” or “edibility” were ubiquitous among the people with whom I spoke. In this particular subject area, the use of folklore and maxims was particularly widespread. For example, some individuals I interviewed brought up (in order to discredit) the practice of checking whether a mushroom is poisonous by putting a silver dollar in a cooking pot with the mushrooms and seeing whether the silver dollar turns dark with tarnish. Additionally, certain phrases came up again and again: “Don’t munch on a hunch,” “Every mushroom is edible at least once,” and “There are old mushroom hunters, and bold mushroom hunters, but no old, bold mushroom hunters.” The use of these maxims was not limited to beginners, but instead was common across all levels of experience.

Questions regarding edibility and toxicity were sometimes disparaged in favor of an approach with more emphasis on “learning” and less on eating. As Teresa (48, black and mixed race with Hispanic, Latinx, or Spanish ancestry, female, she/her) put it,

There are some people in some of the groups that... get a little irritated with people just having a singular interest in eating, and you’ll get snarky responses, like, ‘well, every mushroom is edible at least once.’ [*Laughs*] Which is pretty unhelpful, but I think that the reason why they get annoyed is well intentioned. They’re trying to instill that idea to people that if you’re going to do this, you should be learning, which I think is true, and, you know, have a wider interest in

the learning process rather than, you know, wanting to just find a mushroom and narrow it down to, is this edible.

Teresa seemed to sympathize with these individuals, who, in her experience, discouraged learning motivated by the desire to consume in favor of learning for the sake of more disinterested, “intellectual” reasons. This tension that can arise between people interested in edibility and other people policing the kinds of questions that may be asked raises questions regarding power and embodiment. An emphasis on “learning” that precludes consumption suggests a denial of the desiring, hungering body and a valuing of disinterested intellect over carnal relations, vital needs, and ways of learning about and knowing the more-than-human world. A networked foraging community with a culture that discourages consumption as a motivation for learning might fail to welcome networked foragers who rely on foraged foods for daily sustenance or who prefer to learn about the world through their embodied experiences of desire. In Teresa’s case, it is possible that she was unsure of what a learning process that affirmed bodily desires could look like.

Irrespective of the policing of questions around edibility within the Facebook foraging group, all of my interviewees talked about the pleasures of consuming foraged items. Enjoyment of foraged items was enhanced by the cultivation of skilled vision (Grasseni 2004). As the foragers I spoke with became more aware of what a particular species could look like at different stages of the life cycle and in different environments, several of them reported being more selective about what they harvested. For example, Teresa, who has routinely practiced foraging since 2016 as a way of caring for her body, believes that food growing naturally in forests has more nutritional value than food from grocery stores. She told me that early on, she would “try pretty much anything that was edible and that I felt comfortable

trying.” However, since then, she’s become more selective about what she harvests and consumes. She passes over plants and mushrooms that don’t “have a lot of culinary value,” as well as life forms that are too old. As Teresa put it, “At first, I would pick any chicken [chicken-of-the-woods mushroom] that I found... and now I try to just pick what’s young and tender.” For Teresa, *registers of valuing* foraged food include naturalness, nutritional value, and sensual appeal (Heuts and Mol 2013). The development of skilled vision involves learning how to differentiate among a range of qualities of potential sources of food.

The development of skilled vision that differentiates between different valued qualities of foraged food relies on intuition even as it works to educate one’s intuition. For example, on my foraging walk with Adam (42 years old, white, male, he/him), an elderly man and woman approached him, perceiving that he had expertise in foraging mushrooms. The man held in his arms a large maitake (*Grifola frondosa*, or “hen-of-the-woods”) mushroom wrapped in a picnic blanket, and he asked Adam whether the mushroom was edible. Adam shook his head and apologized, telling the man that it looked too old and probably would not taste very good. After the couple walked away, Adam turned to me and asked rhetorically, with a dry tone, “Did that look tasty to you?” Evidently, beginners must learn what kinds of intuitive knowledge are valid to attend to, or must be rejected. In this case, the maitake mushroom was edible, but likely not “good” for eating, whereas a poisonous *Amanita bisporigera* (“destroying angel”) mushroom might look “good” for eating, but be edible “only once,” as the saying goes. Sorting through what looks tasty versus what is unpalatable, what is safe to eat versus what is poisonous, requires an education of the senses in order to accurately identify edible species, as well as a disciplining of one’s intuition in order to identify foods that are enjoyable to eat.

The edibility and toxicity of an organism, however, is not always black-and-white. Due in part to the contingent nature of edibility and toxicity, perceptions of risk significantly shaped the activities of many of the people with whom I spoke. Paxson's (2008) discussion of post-Pasteurian cultures in the context of cheesemaking offers relevant framing for further exploring issues of species toxicity and edibility in relation to risk. Writing through the lens of Beck's *Risk Society* (1992), Paxson (2008) posits that Pasteurian regulatory practices result in (not-so) "safe" food and germaphobic ("Pasteurian") subjects. On the other hand, "post-Pasteurians" reject this risk discourse in favor of consuming foods that may promote the biodiversity of human gut flora, and support immunity and health (Paxson 2008). Similar to how Paxson's subjects align with one of two camps (the Pasteurians vs. the post-Pasteurians), the people I spoke with also seemed to align with, or stand somewhere in between, one of two groups: those with mycophobia, the fear of mushrooms, and those without.

Many of my interlocutors reported a number of risk-minimizing activities regarding mushrooms, consistent with Beck's (1992) formulation. First, several said that they learned how to forage plants before learning how to forage mushrooms, because they had the perception that mushrooms were, on the whole, riskier—they believed they could be more difficult to identify and were more deadly. Second, several reported teaching others how to forage by selecting for particular species without poisonous "look-alikes." My interviewees seemed to be, on the whole, far less aware of and concerned about environmental toxicants (such as plastics and heavy metals) than naturally-occurring toxins. Consistent with Michelle Murphy's observation, the infrastructure of chemical relations that shape our bodies and environments largely exists within "the realm of the imperceptible" (Murphy 2006, as quoted in Murphy 2017). However, one person I interviewed observed that, like foraged foods,

foods sold in grocery stores also contain environmental toxicants, and may be additionally contaminated at various points throughout the supply chain.

Those of my interlocutors who, in my perception, aligned more with the risk-tolerant, post-Pasteurian camp often described the nuances of toxicity. Some of them explained how toxicity is not necessarily consistent across instances of the same species. As Bryn (29, white, gender non-binary, they/them) observed, “Standard modern medicine is very tightly controlled, but any plant is not tightly controlled and it might have more or less of whatever substance you’re trying to extract from it.” Some of my other interviewees observed that toxicity can be affected by the environmental conditions in which an organism grows, as well as the way in which an organism is prepared to be consumed.

Some of my interlocutors reported varying motivations for experimenting with, encountering (touching, smelling, biting), and consuming new species (e.g., boiling a small amount and eating it) to see how it affected their bodies. For example, Casey (45, white, male and gender fluid, he/she/they) who has a large following on Instagram, described how, in their experience, other foragers generally agreed that milkweed was toxic to humans. After Casey tasted milkweed’s sap and found that it didn’t taste bitter (which, to them, might indicate the presence of toxins), they read a foraging book and scholarly articles about milkweed’s toxicity to humans.⁸ Casey described the importance of respecting folklore while doing the work of what they called “category shifts” to understand how plants (and particular parts of those plants) interact with individual human bodies in ways that folklore may sometimes fail to predict. As Casey put it,

⁸ Milkweed plants can cause serious poisoning of humans. Please see <https://www.poison.org/articles/milkweed-can-cause-serious-poisoning-204>.

You know, there's a lot of great people out there... they're focusing on rethinking, which is really important. And that's what wild food is, it's rethinking. Because it's something that was a part of our tradition—everybody's tradition, not just Native Americans, not just Europeans—everybody's tradition has wild food in it up until fairly recently.

In Casey's perspective, using their body and sensory systems to “rethink” foraged food and conduct the work of “category shifts” around toxicity can revive traditional foodways. Another person I interviewed, Roy (39, white, male, he/him), a mycologist, experienced forager, moderator of the foraging group, and one of my more risk-tolerant interlocutors, talked about how he uses his body as a laboratory in order to advance the field of mycology. Roy described how he tests the edibility of unknown mushrooms:

When I eat a mushroom for the first time, for me, for my body, what I do is I'll cook some up. And I'll eat a little bit... maybe three to four ounces.... I'll check in with myself in about a half hour, an hour, two hours, four hours. Generally after four hours, if I don't feel anything, I'm in the clear.... And then the next day, I'll eat a lot... about a pound and a half of these mushrooms the next day because I want to see if overindulging would have any effect.... If I fare well, then to me, it's edible.

Both Casey and Roy are engaging in the work of “category shifts” by using their body to test new relationships with unfamiliar species. This intimate work opens up new possibilities for relations between humans and other species, although the results of these experiments are anything but universalizable. Such work, however, may be feasible only to those with health insurance and financial resources that would allow them to get help in the event of emergency medical situations.

Taken together, these findings suggest that risk discourse can significantly shape networked foragers' experiences and actions. While many of my interviewees often categorized species as “edible” or “inedible,” “safe,” or “toxic,” in reality these distinctions are in the eye— and the rest of the body— of the beholder. Among my interlocutors, this risk discourse produces political subjects who are afraid or suspicious of foraged foods (reinforcing their dependence on other sources of food), as well as others

who use foraged foods as a way of testing new relationships between their bodies and unfamiliar species. To account for toxicity and edibility concerns, networked foragers' skilled vision involves the disciplining of the senses to accurately identify species, as well as a disciplining of intuition in order to safeguard the well-being of—and give pleasure to—whomever is consuming foraged food.

The biopolitics of eating foraged food

Some networked foragers are consuming foraged foods as a means of developing more intimacy with their local environments. Paxson's (2008) research on consumers of local raw-milk cheese offers a useful point of comparison. Paxson suggests that raw-milk cheese may be considered as a biotechnology for localism or bioregionalism, connecting people more closely to the land on a microbial level. Similarly, local organisms may serve as biotechnologies to networked foragers who wish to feel intimately connected to their hometown through the consumption of foods grown locally. As Casey observed, this process is not straightforward, as some people's bodies may not immediately tolerate large volumes of new foods. As Casey explained:

The biggest advice I can ever give anybody with a new food is... don't eat a ton of it real quick. Eat a little bit, see how your biome reacts.... I think it's good to keep a little care for handling wild foods. Because we're not used to them anymore, we're not used to digesting them. Our gut biome isn't shaped to them, so we should approach them with a little bit of care.

Casey's observation raises questions around the implications of local foraging practices, given the biological, economic, and political consequences of transforming one's body to consume local foods.

Consuming local foraged foods could also be viewed as one method for cultivating greater feelings of reciprocity between humans and other species. In this vein, Bryn described the comfort they get from eating the fruit from a gingko tree so that, as they put it, "we've got the same elements in us."

The psychological, social, and cultural implications underpinning Bryn's statement (and similar statements that other interviewees shared with me) are worth further reflection and study, considering the possibilities that exist for networked foraging to contribute to stronger feelings of connection between humans and the land, and perhaps the cultivation of symbiotic relationships across species.

A different, but related aspect of the biopolitics of eating locally-foraged food concerns local environmental management techniques. Some of my interviewees described eating invasive species or using herbicides as methods of containing or eliminating populations of introduced, undesired species. Amber told me that she posts information to Facebook about getting rid of the invasive species Japanese barberry, which she described as very common in her residential area. Referring to invasive species, Amber said, "If they're edible, it's like, well, instead of using RoundUp [an herbicide], you can eat it." Amber was inspired to eat invasive species after viewing some of Alexis Nikole Nelson's videos in which Nelson advocated for eating invasive species, as Amber put it, "to help deal with climate change and be better stewards of our planet." Relatedly, Casey voiced concern that networked foragers, in their experience, were often not aware of the invasive or native status of the species they encountered. Casey said, "The first thing I always say to people is, it's not about *can* I eat this, it's about *should* I eat this."

In sum, my research suggests that some networked foragers are using foraged food as biotechnologies with which to transform their bodies to be in greater harmony and connection with the local landscape. Through consumption of foraged food, networked foragers, in some cases, develop relationships of care and reciprocity with the land, including by consuming undesired species as a form of environmental management.

Debating the ethics of foraging

This section turns to debates and conflicts that arise in regard to the way in which people harvest and consume the things they forage. Among the people I interviewed, Facebook groups seemed to be an important site of debate and sometimes conflict over the ethics of foraging. One term in particular—“pick shaming”—was widely used among my interlocutors to refer to the practice of publicly shaming people on social media who post descriptions or images of themselves harvesting large volumes of foraged items, harvesting sensitive species, such as *Allium tricoccum* (also called ramps, wild garlic, or wild onion, among other terms), and/or harvesting for purposes that others find to be unjustified. As Bryn observed,

Someone will post [on Facebook] a literal truck bed filled with one type of mushroom, and someone will be, like, in the most quiet little voice ever, “Are you going to eat all that? Is that responsible?” And people shoot it down, being like, ‘You don’t know me, you don’t know my situation.’ So it feels like it’s actually actively difficult to bring up these topics. People seem to react very defensively.

According to Bryn, talking about the ethics of foraging is not something that, in their experience, happens on an everyday, easygoing basis. Instead, these questions and conversations can quickly escalate into heated arguments. As Natalie (37, white, female, she/her) put it, “People sort of argue about the facts, but not in a way that is, like, particularly well factually grounded. And then people do, like, shame each other for, like, ‘Oh, you took too many ramps.’” Additionally, Natalie noted that one person who posted on Facebook a photo of an artistic arrangement of mushrooms was pick shamed not because of the size of their harvest, but because of the use to which the mushrooms were being put. Natalie said, “A lot of people were mad about that. [They said] ‘That was wasteful, and you’re not even eating it.’” As Natalie noted, some networked foragers on Facebook are sensitive to the ways in which they perceive

others are not just harvesting the items they forage, but also how they are consuming them. For some, making art may be a meaningful, life-sustaining creative activity, but for others, it may seem wasteful. On the other hand, other people I spoke with, including Roy, were less concerned about harvesting methods and potential wastefulness. Roy noted, “You’re not disturbing anything by picking mushrooms. You can take them all, you can step on them all, you can kick them all, it doesn’t matter. They’ll just come back stronger next year....”

According to the people I interviewed, it seems to be a relatively common practice within the Facebook foraging group I studied to “block” or remove from the group people who pick shame others, especially when the harvested items are mushrooms. Many of the people I spoke with used the same phrase—“mushrooms are a ‘fruiting’ body”—to make the case that one can pick as many mushrooms as they want without doing harm to the environment. As Amber (33, white, female, she/her) explained:

In the mushroom group [on Facebook], sometimes, people will be, like—this is misinformation that they kind of spread—they’re, like, ‘Oh, don’t pick every mushroom that you see...’ because they think that they’re a limited resource or something, and everybody’s like, ‘No, no, it’s a fruiting body, it’s like picking an apple up off the ground once it’s fallen. You’re not harming the apple tree itself.’

Although some of my interviewees felt that harvesting mushrooms was relatively straightforward, others suggested that harvesting was a more complex task. For example, some people took into account such factors as the underground mycelium that forms a mushroom above ground, as well as whether the mushroom had released its spores yet or not. Bryn described a dilemma they faced in regard to mushroom harvesting:

I took a mushroom once and I just ripped it out of the ground, and when I posted a picture to Facebook later someone commented, ‘Ahhh, no, cut it, so the mycelium stays!’ and I was like, “Oh my God, no,” you know [*laughing*]... and then someone commented with “Whatever, it

doesn't matter, just rip the whole thing out," and I was like, well does it or does it not matter? Bryn said that, in their experience, it's not easy to find information about how to forage ethically. For Bryn, the most helpful guidance comes from popular foraging accounts on social media, like those of Alexis Nikole Nelson (@BlackForager), rather than from within Facebook groups.

As Natalie suggested, these conflicts over foraging ethics seem, on the surface, to be arguments over the "facts," but it seems that such conflicts often emerge when the parties involved are unable to reconcile Western science (which is associated with colonization, capitalism, and human exceptionalism) with anticolonial, feminist moral or spiritual beliefs. For example, Casey shared their perspective on the moral status of foraged organisms:

They have their own right to live, they have their own right to exist, you know? We don't get as sensitive about plants as we do about animals. But they have a purpose here, they're part of our understory, they're part of our ecology, they're not just there for your amusement, you know?

Attending to ethical and epistemological differences within networked foraging communities requires respectful listening. The concept of "political listening," as described by Anna Tsing (2015, 254) offers a glimmer of insight. Inspired by the work of political activist and organizer Beverly Brown, Tsing describes the way in which Brown brought together different human communities engaged in political conflict to engage in creative listening, which, "rather than resolving difference, allowed difference to disturb too-easy resolution" (2017, 254). Tsing proposes that through a broadened definition of "listening" that includes other forms of awareness, we may be able to find ways of allying with humans and the more-than-human world toward common goals. Networked foraging is a practice of "becoming-with" other species (Haraway 2008); through harvesting and consuming forms of life outside our bodies, we transform our environments and are transformed. Our encounters with other

humans, the more-than-human world, and even within ourselves require practices of care and listening, as well as acknowledgement of the limits of what we know and can intuit at any given point in time.

Conclusion

For my interviewees, determining whether to harvest and consume something was rarely a straightforward process. Carefully assessing competing claims to truth and, for some, using one's body to test new relationships with other species were important parts of the process. Additionally, learning *when* to listen to one's intuition was critical to the process of determining whether something was not just safe to eat, but also worth eating.

Naturally-occurring toxins in foraged foods were one issue to contend with, while environmental toxicants were another. Among my interviewees, there was little knowledge of the human-made toxicants present within local environments. My interviewees tended to use a common set of heuristics across different environmental contexts, such as avoiding foraging near roadways, walking paths, or landscaped areas. When foraged items were deemed to be “edible” or “nontoxic,” my interviewees consumed them as a way to form intimate relationships within the local ecosystem, manage the environment in service of a particular vision or goal, conduct the work of “category shifts,” and revive traditional foodways, among other motivations. Many of these networked foragers essentially use foraged foods as biotechnologies with which to transform their own bodies, build relationships, and manage the local ecosystem.

My interviewees were often at a loss when it came to learning about and discussing the ethics of foraging. Many reported not knowing where to turn for information about how to forage ethically, and

many did not have easy access to information about human toxicants present in the environment. When conversations did emerge on Facebook in regard to foraging ethics, these conversations frequently erupted in conflict, and “pick shamers” were often immediately blocked by members of the group.

Taken together, these findings demonstrate that through foraging, networked foragers may transform their bodies, ways of life, relationships with other living beings, and ecological communities. These findings suggest that the networked foraging community I studied on Facebook, as well as other networked foraging communities, may benefit from (1) recognizing that foraging is a practice of world-making and “becoming-with” (Haraway 2008) other species, (2) developing methods to evaluate and collectively discuss the needs and desires of humans and the more-than-human world in local communities, and (3) nurturing open, respectful conversation about foraging ethics. These three capabilities are vital to identifying and articulating common agendas within our ecological communities (Tsing 2015).

{ Interlude 3 }

Westerville, Ohio— Delicate snow flurries sweep past the windows in my parents’ living room. It’s January 2, 2022 and about 30 degrees Fahrenheit outside, but closer to 70 degrees inside, with the gas fireplace on. Inside and tucked under a blanket, I’m enchanted by the scenery. To me, this is an ideal moment in which to go foraging for pine needles that I can use to make into a tea. Ever since seeing an Instagram post featuring a cozy cup of pine needle tea several weeks ago, I’ve been planning to make some while I’m home with my parents over the holidays.



Figure 7. An Instagram post showing a sleeved hand holding a mug of pine needle tea.

“Do either of you want to come forage with me?” I ask my parents, removing my blanket. My dad gets up and puts on a thick jacket and hat, while I shrug into my long winter coat. We step outside and head toward a small group of pines that I noticed a couple days ago while on a walk. The pines are

standing on land that doesn't obviously belong to anyone in particular—they're next to a roadway at a distance from a cluster of homes. I'm sure *someone* owns this land, but I don't know who that would be and I don't think they'd mind my dad and me walking here and foraging. As a white woman, I've rarely been apprehended for being somewhere I probably shouldn't be—one of many race- and gender- based privileges I experience on a daily basis.

Coming up close to the trees, I realize I don't know whether and how to harvest pine needles



without possibly harming the trees, so I scan the ground for fallen branches. I notice a couple handfuls of needles scattered on the new-fallen snow. I pick them up and place them in the thin tote bag my dad brought with him. We notice a cluster of dark berries hanging, dead, on the pines, and he puts a tendril of the shriveled berries in the bag. I'm delighted to see some mushrooms peeking out of the snow.

When we get back home, I begin the species identification process. I start by Googling “pine tree dark berries Ohio” and look through various websites. One of the websites includes a synoptic key that asks how many pine needles cluster

together in groups on the branch. From the bag, I take out one of the branches I found and gently splay the needles to count the needles in each cluster. Some of the clusters are so delicate, I'm surprised by how many I count when they are fanned out. I count clusters of two, three, and five pine needles. I'm not sure how to interpret this range, since the website seems to indicate that the clusters should be

Figure 8. My hand holding foraged pine needles.

consistent on each tree. At the moment, my top contender for the species ID is “Eastern pine” because a website called OhioLine lists that species as one that has needles that cluster in groups of five. However, the website describes these trees as being extremely tall and straight; their trunks were traditionally used as masts for ships. I’m not so sure that this is the right ID, since I don’t believe the trees in my neighborhood are quite that tall and straight, and Eastern pines don’t seem to grow berries like the pine trees I saw. I open the Seek app to see if it has any idea what the tree is, and it tells me that the tree is in the Pine family, but it’s not sure which species the tree belongs to.

As I’m trying to sort through the websites and apps, my mom asks what I’m doing, and I explain. She replies, “Pine trees don’t grow berries, as far as I know. The berries must be growing on a vine through the tree. And the tree is probably a Scotch pine. They’re used all the time around here in landscaping.” I had no idea my mom knew these things. I wonder how she first learned about the Scotch pines around here. I quickly search for descriptions and images of Scotch pine. Sure enough, that ID looks like it could be a match, but I realize that I didn’t look very carefully at the bark of the trees in my neighborhood. Instead, I was fixated on the pine needles and the beauty of the new-fallen snowflakes clinging to them.

I put my coat back on and head out again to get another look at the trees. This time, I look carefully at the texture and color of the bark, the size of the trunks, and the shape of the pinecones scattered on the ground under the trees. I notice that the bark is peeling in places, and red under the surface flesh. Fastened to the trunks are various intricate vines and growths, and I wonder what these different species are doing with each other. Are they in some kind of parasitic or symbiotic relationship? I take photos of the trees, so I can later compare them to photos I find online. Finally, I look more

carefully at the berries that I saw earlier. To my chagrin, they are indeed not attached to the tree at all—just coiled around it. Their vine is a much different thickness and texture than the branches of the tree. Before I leave, I pick up a pinecone and hold onto it, wondering if there’s anything I can do with it. By the time I get home, my hand is sticky with sap.

After scrubbing the sap off, I get back online and look through the photos of Scotch pine again. This time, I recognize the tree as the one I just saw in my neighborhood, even without having a distinct sense of how I recognize the tree. To move onto the tea-making process, I start by Googling “Scotch pine needles tea.” I don’t see many search results that are very helpful, so I broaden my search to, “use any pine needles to make tea?” Numerous websites seem to confirm that this is true, although they offer

warnings to watch out for Yew and some other flat-needled pines, which can poison humans. I go into the kitchen, rinse off the pine needles, and chop them into short segments while a water kettle heats up. After setting a tea strainer in a coffee cup, I fill the strainer with the chopped needles, and then pour the steaming water over them. I let the tea steep for several minutes and then cool off. Remembering Casey’s advice not to consume very much of anything for the first time, I take a tiny sip. The flavor is delicate and pleasant, although difficult to describe or compare to other things I’ve tasted. My mom and dad take tiny sips, too. Having had this



Figure 9. My cup of pine needle tea.

intimate encounter, I feel certain that I would be able to identify a Scotch pine now.

Chapter 6

Recording: “A living tree of life” on social media platforms

“There’s a living tree of life on the Internet, right now,” James tells me enthusiastically, almost halfway through our interview. Talking about publishing DNA sequence data to the web, James describes how international communities of professional scientists, citizen scientists, and others share information online about new species they encounter and study. After our meeting, I meditate on the image of a “tree of life,” sifting through variations on this theme, of which there are countless examples. Just a handful include: Gustav Klimt’s celebrated painting *Tree of Life, Stoclet Frieze* (1909); The tree of life planted on a giant turtle’s back from Haudenosaunee (or Iroquois) confederacy mythology; The “tree of life” sought after by the two protagonists in the 2021 fantasy adventure movie *Jungle Cruise*; The tree of life “in the midst of the Garden of Eden,” as described in the Book of Genesis; The tree of life that appears as a biomorphic pattern in Islamic architecture. Reflecting on this timeless symbol and metaphor, I begin to wonder what kind of networked foraging “tree of life” exists on the web, not just in terms of DNA sequence data, but also in the form of other digital content, such as networked foragers’ online posts, comments, “likes,” field data, and multimedia uploads.

One approach to studying this digital “tree” involves attending to the ways in which networked foragers decide what to share of their foraging experiences online. In this chapter, I discuss the ways in which my interlocutors described how their perceptions of digital audiences and social media algorithms influenced what they published online, as well as the ways in which they presented themselves as individuals. I argue that networked foragers may often have a bias toward sharing spectacles with an emphasis on visual aesthetics and abundance. As Haraway (2008, 251) writes, “the critters of the world...

are assayed by the standard of the visually convincing and, at least as important, the visually new and exciting.” Such images of “spectacular nature” become digital commodities that circulate on social media platforms and digital apps used by networked foragers such as Seek by iNaturalist (Altrudi 2021). These visual commodities accrue cultural capital and sometimes financial capital to the user who posted them (Gómez 2019). This bias in favor of the commodification of nature is encouraged by the widespread algorithmic privileging of digital content that receives higher levels of user engagement above content that elicits less digital interaction. This common algorithmic design, the result of human value-based decision-making, is aligned with tech companies’ broader goals of drawing and holding the attention of their users, so they can earn more money from digital advertisements and the collection and sale of user data (e.g., Beer and Burrows 2013; Seaver 2018; Zuboff 2019). While the commodification of foraging content on social media platforms may draw new participants into networked foraging activities and social groups, it may also encourage/reinforce a networked foraging culture of spectacle, entertainment, and commodification of nature and of the self (Gershon 2017).

Growing the digital tree of life

This section describes some of the ways in which my interlocutors described how they decided what to publish online about their foraging activities. The people I interviewed created and uploaded digital content to web-based platforms for a variety of reasons, such as to ask others to identify or confirm the species, to share that something was in season, or to show off a particularly voluminous harvest. All of my interlocutors reported uploading to Facebook and Instagram pictures or videos of plants, mushrooms, and other foraged items. Some also discussed writing or recording information using other

media, such as a local e-newsletter article and a hardbound journal. However, my focus in this section will be on my interlocutors' use of the digital media platforms Facebook and Instagram.

Some of my followers described posting certain kinds of content online in order to garner public attention and interaction. For Luke, who has a large Instagram audience and uses his profile as a way to attract business to his company, deciding what to publish to his Instagram page involved deciding whose attention he wanted to solicit, among his followers. As he observed, "My mushroom followers don't really follow me for my plant stuff, so if I post plants, they're not as interested in it." Luke also worked to post content that would receive more and "better" forms of digital engagement, such as comments and questions, by larger numbers of people. He described how he recognized, over time, that photos of mushrooms or berries elicited more digital engagement from his followers than photos of "leafy green" plants. He also noticed,

If a picture is more abundant, like, a lot of fruit or a lot of something, that gets more positive reactions—likes, comments, people reacting in a story—than just a small amount. If you have three berries versus a bushel of berries, people want the bushel of berries.

From Luke's perspective, posting digital content that shows abundant food attracts more digital engagement from his followers, so he is more likely to post a photo of abundance than relative scarcity. For him, posting content that elicits an immediate digital "reaction" from his followers is an important goal. This desire to publish posts that more people will engage with digitally are tied to Luke's perceptions of the ways in which the social media platform's underlying algorithm filters content and selectively promotes certain kinds of content over others. Luke discussed how he was "always kind of guessing" how Instagram's algorithm worked, framing his thoughts about the algorithm in terms of the platform "wanting" him to post in certain ways. When Luke decides that a post about a particular

species or topic is likely not going to garner as much digital engagement as he would like, often it ends up never getting posted, or he saves that content to post during the wintertime where he lives, in the “off season.” For example, he described a delicate plant that he would not be likely to feature on his Instagram page:

There’s a plant right now that’s out, it’s quite abundant. It’s called ‘galinsoga,’ and it’s a fairly inconspicuous plant. It has small, barely noticeable, white-petaled flowers, with a yellow interior and kind of these broad, green leaves. Delicious plant, lots of uses across many cultures. But if I posted a post about galinsoga... I know that that’s not going to perform that well.... So I might not post a galinsoga post. I might post a basket of mushrooms, or an armful of Kentucky coffee bean pods or something, you know, something like that instead. And the galinsoga never shows up, it’s just not as charismatic.

Luke admits that he is less likely to post about a plant such as galinsoga that his followers may not digitally react to as much, even if the plant itself is “delicious” and used in many cultures. Luke observes how, in this case, galinsoga suffers the same fate as certain animal species that are endangered but are not considered “cute” or “spectacular” enough to gain the attention of conservationists. Luke’s comments made me wonder how the emphasis on visual aesthetics on social media platforms may affect the kinds of species that are indexed online and known and discussed among networked foragers. Luke’s observations bring to mind a famous phrase from the media theorist Friedrich Kittler: “Nur was schaltbar ist, ist überhaupt.” JDP (2016, 26) translates this German dictum into English as, “Only that which is networkable or switchable exists at all,” and into vernacular English as: “If Google can’t find you, you don’t exist.” I wondered what the long-run environmental and social consequences might be for plants that are not indexed online, as well as those that are.

Another person I spoke with, Casey, actively resisted the “desires” of Instagram’s algorithms. Casey joined Instagram almost a decade ago when it was still a “minor platform,” before the news feed

displayed ads, and before there were Instagram “superstars,” using Casey’s term. In our meeting, Casey emphasized that they do not claim or accept the title of “influencer” even though they now have a large audience on Instagram. As Casey put it, “Don’t ever call me an influencer, I’m not an influencer. I don’t like that term, I don’t like that style, I don’t like that approach.” Casey used the term “playing to the platform” to characterize an approach that influencers and would-be influencers use to gain a following. Casey described people as playing to the platform when they “change what they’re doing to fit [the platform],” to “make a buck” or “be something they’re not, or whatever.” On the other hand, Casey brought up Alexis Nikole Nelson (@BlackForager) as an example of someone who uses Instagram in an authentic way, as an “outlet” for her ideas and “giddiness.” As Casey put it, “Alexis just kind of does things and... she just happens to be really, really good.” Talking about the pressures Casey perceived arising within the digital environment of Instagram:

When you were a kid, like, did you, you know, you felt a pressure to look a certain way, to act a certain way, to be a certain way. Instagram’s the same thing. Instagram is junior high, it’s putting pressure on you to photograph things a certain way, to present them a certain way, to be a certain way. I am not having that. I am going to put the messiest thing I can possibly put out there every once in a while, just to scare off the newbies.

Casey further elaborated on their desire to post “messiness” on Instagram to defy the perceived cultural pressure “to be a certain way.” They described posting mistakes on the platform, such as misidentifying a species they harvested, or explaining “here’s what happened today, here’s what I did” in a non-“curated” way. For Casey, actively rejecting what’s popular or conventional on Instagram is a way to remain true to oneself, although it can sometimes mean not getting as many “likes” as others who are more willing to “play to the platform.” From Casey’s perspective, some people, such as Nelson, have a natural way of presenting themselves online that happens to gain widespread attention.

These observations from Luke and Casey point to the ways in which platform and algorithm design can influence what networked foragers post, with implications for the digital “tree of life” that represents the digital content of networked foragers. In Luke’s experience, some types of flora or fauna are deliberately not posted (or are posted off-season) because they may not garner much digital interaction from his followers, for whatever reason. In Casey’s experience, actively rejecting the “influencer” title and the social pressure on Instagram to showcase “curated” content means sometimes posting mistakes or “the messiest thing.” In both cases, Instagram’s algorithms, and the incentives those algorithms create, significantly shape the growth of the digital “tree of life.”

Networked foragers’ self-representations

This section will highlight some recurring themes in how my interlocutors reported sharing of themselves on Instagram and Facebook. Here, I posit that social media platform and algorithm design—the result of human value-based decision-making—may encourage/reinforce a networked foraging culture of spectacle, entertainment, and commodification of nature and of the self.

The design of social media platforms can distort how people are perceived within their broader communities. One of my interviewees, Adam, who is a member of the Facebook foraging group, told me about how he creates his own digital field guides which he shares with members of his foraging group. Frustrated by printed field guides that feature only one or two photos of many different species, or many photos of only a few species, Adam uses digital media to get around the problem of expensive color printing. He shoots and assembles digital photographs of particular species from multiple angles to make identification guides. As Adam says, “I’m just pushing for people to look at mushrooms. Like,

really look at them and see that there's subtlety in them and they're complex, and if you pick up on those subtleties, then you'll really get to know those mushrooms." Adam's guides describe what each species often tastes or smells like, in addition to providing visual cues to help with the identification process. Along similar lines, Adam described his frustration with certain people in his non-foraging Facebook community who noticed him posting online about foraging mushrooms. When Adam perceived that they were thinking of him as just "the mushroom guy," Adam described limiting his posts about foraging outside of the Facebook foraging group because he found it "aggravating" that people began to think of him as only interested in mushrooms. From Adam's perspective, some people can begin to see a Facebook profile as entirely encapsulating a person, and in his case, he chose to keep his foraging posts out of public view in order to avoid being associated solely with mushrooms. Adam recognizes that not only are mushrooms complex, multi-dimensional beings, but people are, too. Frustrated by the ways in which people can misinterpret public profiles (and public profiles can be misleading representations of humans), Adam chooses to often filter out foraging posts from his public news feed, limiting those posts to his Facebook foraging community.

Similarly, the Instagram user Luke describes cultivating a "public-facing persona versus who I actually am" by accommodating the desires of his Instagram audience. As he put it, "The bigger my account gets, the more I'm kind of subdued and kind of pigeon-holed into posting, you know, more middle-of-the-road foraging content—all foraging content, all the time." Although Luke would like to use his personal Instagram profile to publish about activities not directly related to foraging, he received pushback from some of his followers who wanted his profile to be solely focused on foraging content. Luke then told me that when he has in the past posted about politics, including issues related to local

Indigenous and unhoused peoples, he lost “sixty or seventy followers, like, instantly.” Noting that none of those people were from his hometown, he observed that his “sphere of influence” and relevance was mostly centered on Instagram users who were located near him or lived in the same regional area. Luke’s experience suggests that among his followers who did not live near him, there may be higher expectations around posting “foraging-only” content, divorced from local politics and circumstances. Toward the end of our conversation, Luke noted that “there’s definitely a very narrow lane of human experience that is allowed to be expressed” on platforms like Facebook and Instagram. He told me, “You only see curated existence.” Based on Luke’s account, there seemed to be complicated dynamics at play on the Instagram platform. While the platform supports interactions and knowledge-sharing among people around the world, such interactions might sometimes come with expectations and platform-based incentives for content that is consistent and “pure” in subject matter in order to be immediately relevant and applicable to anyone, anywhere. Luke’s experience of feeling pressure to sell himself as a consistent, marketable product is consistent with observations Alanna Gershon (2017) makes about the commodification of self within the U.S. labor market.

Not everyone I interviewed reported feeling so limited by the pressures of social media. Another person I interviewed, James, described feeling relatively uninhibited when he posts on Instagram. As he put it, “I definitely present myself as-is, unfiltered.... Sometimes I’m happy on Instagram, and sometimes I’m super depressed or sometimes I’m angry and all of that gets out there.” However, James noted that he likes to “document ethical fun” for his younger followers, in order to serve as a positive role model. “Culturally, what’s fun is, like, fucked up, sometimes. Like, we’re having fun at the expense of poor people in the southern hemisphere making and taking care of everything for us....” James described

feeling motivated to share ways to engage in more “ethical fun” that is environmentally and socially sustainable and works to avoid creating more suffering in the world. Although James felt relatively free to express himself on Instagram, he recognized that social media platforms are powerful spaces in which ideas and values may be spread widely, and he took care in making decisions around what to share online.

Conclusion

In this chapter, I describe how the digital content that some networked foragers contribute to Instagram and Facebook may be differentially influenced by their perceptions of what these social media platforms “want” and algorithmically reward. Many of my interlocutors perceived that social media platforms incentivize users in subtle and explicit ways to post digital content that elicits a high degree of digital engagement (such as content that gets more “likes,” “shares,” and “comments”). While one of my interviewees tried to adjust their strategy in accordance with the algorithm’s preferences, another actively resisted the prevailing culture of “curated existence” on Instagram by posting mistakes and messes. Furthermore, the ways in which social media platforms and users may value consistency of subject matter online can lead some networked foragers to feel inhibited in what they may share of themselves on the web. Such findings suggest that social media platforms sustain a networked foraging culture that encourages the commodification of the environment and self. A networked foraging culture that valorizes “pure” foraging content and “spectacular” nature misses the fundamental and everyday entanglements of the human and more-than-human world.

Chapter 7

Anti-conclusion

Bodies and landscapes are constantly in conversation and material exchange. Our bodies are always trading substances with the air and earth, and the land is always changing in interaction with bodies, technologies, and techniques. Likewise, my findings in this project are specific to the time and place in which I conducted research; the people I spoke with and networked foraging communities I studied are already different now than they were. In that spirit, the title of this section is inspired by Anna Tsing's "Anti-ending" at the conclusion of *The Mushroom at the End of the World* (2015). This anti-conclusion aims to summarize my research findings, and then, like a sporulating mushroom, offer ideas for future research that might catch hold of other researchers' imaginations and grow into something new.

The histories of the U.S. high-tech industry and land ownership infrastructures within which contemporary networked foragers act are underpinned by colonial, capitalist, patriarchal, and white supremacist logics. These logics constitute an ecological regime within the United States that transforms bodies and land, disproportionately harming black people, people of color, Indigenous peoples, immigrants, and women, among other marginalized groups. This regime profits from the systematic exploitation and commodification of land and humans, and accrues capital and power to white, colonial corporations, entities, and the people who represent them.

Acting within this ecological regime, networked foragers use a variety of technologies and techniques to orient themselves within their local environment and develop skilled vision. This type of skilled vision represents a group-based form of environmental awareness that is attuned to the sight,

smell, sound, taste, texture, and time scales of more-than-human forms of life. Learning to see the world through this type of skilled vision opens up new possibilities for relating to and interacting with the land. For example, some networked foragers I interviewed are using their bodies and foraged foods as biotechnologies with which to intimately connect with the local ecosystem, develop new relationships, and maintain the environment.

At the same time, the learning process for some networked foragers may be limited by Western, colonial scientific perspectives and expertise that primarily comes from a certain privileged demographic group. Furthermore, interactions on Facebook may, in some cases, foreclose difficult but generative conversations about foraging ethics and the needs of more-than-human forms of life. An inability to address ethics and politics neglects the important truth that foraging is a practice of world-making and “becoming-with” other forms of life—through foraging, we transform ourselves and our ecological communities. Developing methods for “political listening” and nurturing respectful, candid conversation about ethics among foragers is vital to identifying and pursuing common agendas within our ecological communities.

Finally, social media platform design encourages the commodification of nature and self through the widespread algorithmic privileging of digital content that receives higher levels of user engagement above content that elicits less digital interaction. While the commodification of foraging content on social media platforms may draw new participants into networked foraging activities and social groups, it may also encourage/reinforce a networked foraging culture of spectacle, entertainment, and consumerism, and discourage the interlinking of foraging with politics and ethics.

Future research might investigate methods of designing digital tools and platforms in order to facilitate multi-species relationship-building and difficult conversations among humans about politics and environmental ethics. Future research might also explore ways to better account for the needs, desires, and experiences of the more-than-human world on the web.

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**Bodies, Land, and Instagram: Networked Foraging
and Infrastructural Media in the United States**

by

Emily E. Grandjean

B.A., Economics, Wellesley College (2015)

Submitted to the Department of Comparative Media Studies/Writing
in partial fulfillment of the requirements for the degree of

Master of Science in Comparative Media Studies


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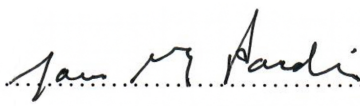
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Abstract

This thesis examines the ways in which people in the United States use social media applications to learn about, practice, and share their experiences of foraging. Through an exploration of the histories of the U.S. high-tech industry and federal land ownership and private property systems, I discuss how colonial, capitalist, patriarchal, and white supremacist logics converge as an ecological regime that exploits bodies and land, accruing power to wealthy, white people and corporations. Acting within this ecological regime, networked foragers use a variety of technologies and techniques to orient themselves within their local environment and develop group-based “skilled vision.” Some networked foragers use their bodies and foraged foods as biotechnologies with which to intimately connect with the land, develop new relationships, and maintain local ecosystems. At the same time, the learning process for some networked foragers may be limited by Western, colonial scientific perspectives and “expertise.” I observe that online interactions may, in some cases, foreclose difficult but generative conversations about foraging ethics and the needs of more-than-human forms of life. Finally, I find that social media platforms may encourage a networked foraging culture of spectacle, entertainment, and consumerism, and discourage the interlinking of foraging with politics and ethics.

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We were made to understand it would be
Terrible. Every small want, every niggling urge,
Every hate swollen to a kind of epic wind.
Livid, the land, and ravaged, like a rageful
Dream. The worst in us having taken over
And broken the rest utterly down.

A long age

Passed. When at last we knew how little
Would survive us—how little we had mended
Or built that was not now lost—something
Large and old awoke. And then our singing
Brought on a different manner of weather.
Then animals long believed gone crept down
From trees. We took new stock of one another.
We wept to be reminded of such color.

“An Old Story” from *Such Color: New and Selected Poems*. Copyright © 2021 by Tracy K. Smith. Used with the permission of Graywolf Press, Minneapolis, Minnesota, www.graywolfpress.org.

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Chapter 1

Introduction

During the first year of the COVID-19 pandemic in Southern California, people flocked to the shoreline to frolic and forage in shallow tide pools. During a time of widespread upheaval, foraging—generally understood in the U.S. as the practice of gathering foods, medicines, and other useful materials outdoors—surged in popularity. Some people reportedly left the tide pools with plastic trash bags bursting with mussels, while others carried home handfuls of starfish (Sahagún 2020). Near the tide pools in San Pedro, an unemployed casino worker told a reporter that foraging was “a fun way to spend the day and grab a free dinner. Especially for those of us who lost jobs because of the coronavirus pandemic” (Sahagún 2020). The worker scanned the tide pools, searching for things to eat, alongside about thirty other people. State game warden Doug Wall, who had patrolled this area in San Pedro for two years, remarked, “I’ve never seen so many people combing these tide pools for food” (Sahagún 2020).

Discussions and heated conflicts emerged online over foraging rights. A representative of the California Department of Fish and Wildlife observed, “There [have] been a lot of postings on social media... saying to come down to this tide pool area and that the resources are endless and plentiful” (Sweeney 2020). Meanwhile, the surge in tide pool foraging activity attracted the attention of people concerned about the intertidal ecosystems. These people, too, turned to social media as a tool for spreading the word. In mid-July, a person based in San Pedro identifying themselves as Marisa V (2020a) launched a Change.org petition to make the San Pedro tide pools a “No Take Marine Preserve Area”

which would prohibit removing marine life. The petition gained 600 signatures in its first 24 hours (V 2020b).

When I first read about the tide pool foragers in Southern California, I was temporarily living in Los Angeles with my partner's family. Foraging, I had noticed, was a *thing* in California. My mother-in-law's caregiver Connie often gathered rosemary from the back yard to use in her cooking. I heard stories of people stealing avocados off of trees on private property. On walks around Pasadena with my partner Tom, I felt a deep longing to reach my hand into tree crowns bursting brightly with lemons and gather an armful of fruit to take home. Around this time, foraging was becoming a trendy subject online. I noticed one person, in particular, who was becoming famous for her foraging content on social media.

Alexis Nikole Nelson, also known as @BlackForager, rapidly accumulated followers on Instagram, Facebook, and TikTok over the course of the pandemic. Nelson originally began to attract attention in March 2020, when she posted short video clips of local plants and a color-changing syrup made with violets that she had foraged in her Columbus, Ohio neighborhood (Nelson 2020c). Not long after posting the video, Nelson was surprised to find that it had been viewed on TikTok around 40,000 times—a large number, considering that she had less than 1,000 followers at the time (Moseley 2021).

Although I was raised outside of Columbus, not far from where Nelson lives, I didn't know the plants in my neighborhood nearly as well as Nelson did. I was enchanted by the ornamental (and invasive) Bradford pear trees lining my street that bloomed in popcorn-like bursts every year, and I knew the names of a handful of the flowers and herbs my mother grew in our garden. However, I had no idea what else grew beyond the limits of our quarter-acre property in the suburbs. Today, I still know very little about my local ecosystem in Cambridge, Massachusetts, partly because I can get everything I need

from local stores and e-commerce sites. Nelson's playful and educational foraging content inspired me to attend more carefully to the other forms of life in my neighborhood. Her social media posts seem to have touched many others, too. As of the time of this writing, Nelson has accumulated nearly five million followers across TikTok, Instagram, YouTube, Facebook, and Twitter, and her work has been featured in *The New York Times*, NPR, and *The New Yorker*, among other media outlets.

As @BlackForager, Nelson's videos became highly popular at an important historical moment when people around the country were struggling with a global public health crisis, facing widespread food insecurity (Balch 2020), and also protesting against systemic racism. By early June, the #BlackLivesMatter movement had reached a new peak, when between 15 to 26 million people in the United States participated in protests against the murders of George Floyd, Breonna Taylor, and Ahmaud Arbery (Buchanan, Bui, and Patel 2020). Mass protests also emerged in response to other tragic and enraging manifestations of systemic racism, including an incident in which a white woman named Amy Cooper filed a false police report against Christian Cooper, a black birdwatcher in Central Park (Ransom 2020). Amidst these events, Nelson tagged some of her foraging videos with #BlackLivesMatter, indicating that her content was intended to be not just educational, but also connected with the broader protest movement (e.g., Nelson 2020a, Nelson 2020b).

Nelson's social media presence as @BlackForager took on a political stance not only in relation to the #BlackLivesMatter movement, but also in relation to the history of slavery in the U.S. In February 2021, during Black History Month in the U.S., Nelson (2021a) posted a video in which she explained that black people in the pre-Civil War era had often relied on foraging for sustenance. Once slavery became illegal and black people were freed from forced labor on the plantations, new laws restricted

their foraging rights, often forcing them to return to work on plantations in order to earn a living (Nelson 2021a). Over time, Nelson (2021a) claimed, black people “collectively forgot” how to forage.

Reflecting on her own motivations for foraging, Nelson (2021a) said:

For me, foraging as a black woman is an act of rebellion through restoration of knowledge. Too often, people of color put their hands to the earth to support others. It is an act of justice to put our hands to the earth to support ourselves.

As a black woman in the U.S., learning how to forage was simultaneously empowering to Nelson and an act of justice. Foraging was a way of reclaiming the right to care for herself and, in doing so, contribute to restoring the relationship between black people in the U.S. and the land.

Nelson’s @BlackForager presence on social media was intended to demonstrate that black people, as much as anyone else, had the right to safely and joyfully access and forage on land. Nelson recognized that she was one of relatively few black people active in digital foraging spaces (Ward 2021). Even by mid-2021 when Nelson had already amassed millions of social media followers, she noted that she still didn’t see many other black foragers (Ward 2021) Furthermore, Nelson noted that in her experience, she tended “to incur skepticism a lot more than some of my delightful white peers” (Ward 2021).

Nelson’s experience, as well as the experiences of many other black people—including Ahmaud Arbery, George Floyd, and Christian Cooper—and people of color in the U.S. suggest that systemic racism continues to influence who has safe and pleasurable access to the outdoors. Although the U.S. may, to some, appear to support social justice and equity more than ever, racism and other forms of discrimination remain prevalent even as they change forms. As Losurdo (2011) observes, U.S. liberals have often acted in ways contradictory to their purported values of freedom, equality, and justice.

Although human chattel slavery may no longer be legal in the U.S., the enslavement of black people gave way to post-Civil War white supremacist terrorists and Jim Crow laws in the South, which later gave way to coded racism and the prison-industrial complex (Alexander [2010] 2020; Losurdo 2011). Today, when “existing while black” is a dangerous and even life-threatening proposition, merely walking outside can be a radical act.

For black people, as well as other historically marginalized groups including (but not limited to) women, LGBTQIA+ people, people of color, and Indigenous peoples, restoring one’s relationship to land can be politically profound in many ways. In the U.S., land access and ownership has historically been severely limited or denied to people who were not affluent, cisgender white men (Erickson and Mortimer-Sandilands 2010; Pulido 2017; Horst and Marion 2019). In recent years, political activists such as the “professional homosexual,” environmentalist, and drag queen Pattie Gonia (2022) and Leah Thomas, founder of The Intersectional Environmentalist Platform, have worked to make the outdoors and environmentalism more inclusive. Their acts against the logics and legacy infrastructures of centuries of settler colonialism, racial capitalism, and heteropatriarchy.

Against this historical backdrop, the confluence of these recent events—conflicts over tide pool foraging in Southern California, observing people in my own community foraging, and @BlackForager’s rapid rise on social media—sparked my interest in foraging as a subject of research. The more I read about the history of foraging and land rights in the U.S., in addition to media theory and media history, the more questions arose in my mind about the political, social, and cultural implications of contemporary foraging practices that involve digital technologies. These questions generally fell under one broader question: How do people use digital media to learn about and practice networked

foraging, and how do these practices differentially value and affect human and more-than-human bodies and landscapes?

As a white, American, cisgender woman, this research project relates to my interest in promoting social and environmental justice and learning how to be a good ancestor (Hausdoerffer et al. 2021). Conducting this research has helped me to recognize and interrogate the ways in which I have been socialized into capitalist, settler colonial, white supremacist, and heteropatriarchial systems. Throughout this process, I have reflected on Anishinaabe elder Michael Dahl's question, "*What Kind of Ancestor Do You Want to Be?*" (Hausdoerffer et al. 2021, 1, emphasis in original). Inspired by this question, I attempt to highlight in this thesis the infrastructures and values that influence human relationships within the "more-than-human" world (Whatmore 2006), with consequences that may affect future generations. By drawing on the wisdom and scholarship of an intersectional group of people to critique these infrastructures and values, I hope this thesis contributes in one small way to transforming the production and dissemination of knowledge in the academy as well as within and beyond networked foraging communities, which the next section will define.

Theoretical approach

In this thesis, I use the term "networked foragers" to refer to people using social media and other digital technology to learn about foraging, engage in foraging, and discuss and share their experiences with others. This use of the term "networked" follows Tufekci's (2017) use of the term in the context of studying networked protest movements—activist movements and publics that assimilate the use of digital technologies and depend on them to achieve their goals. Although humans have been foraging

since time immemorial, the use of digital technology for foraging-related practices and communication is a relatively new phenomenon that this thesis explores, with a particular focus on networked foragers based in the U.S.

The media theorist and historian John Durham Peters (hereafter, “JDP”)¹ offers an approach to thinking about media that is particularly useful in the context of foraging. Within the field of media studies over the past twenty years or so, there has been a shift away from studying textual and representational “content” and “meaning” (such as the content and semiotics of television shows, advertisements, and Facebook posts) to engaging with “a broader array of media-related objects, practices, and formations” (Parks 2020). One outcome of this shift has been a growing literature of media ecology and environmentalist media research, which Parks (2020) links to JDP’s recent work on environments as media. In his recent book, *The Marvelous Clouds* (2016), JDP revives the Aristotelian notion of media as “things in the middle” by developing a framework of infrastructural media, which builds on the work of Marcel Mauss, Harold Innis, and Friedrich Kittler, among other scholars. In this view, media are “enabling environments” that nurture many different life forms, including other media (JDP 2016, 3). JDP explores the ways in which the environment itself may be considered as infrastructural media, observing that environments are “our infrastructures of being, the habitats and materials through which we act and are” (JDP 2016, 6, 15).

In his framework of environmental media, JDP differentiates between two different forms of media: technique and technology. According to JDP, in recent millennia, humans have become the

¹ I refer to John Durham Peters using the acronym “JDP” because that is how he refers to himself on his C.V. Please see https://english.yale.edu/sites/default/files/files/Peters%2C%20John%20Durham_CV21.pdf.

“planetary hegemon” through their use of various techniques and technologies (2016, 8). The former includes know-how and corporeal knowledge and craft that interact with bodies and tools, while the latter always exists in a lasting, material form (JDP 2016). As JDP notes, “The line between technique and technology is externalization into durable form, and thus the ability to profit from distance and absence” (2016, 91). Following this line of thought, JDP describes how ships are technologies that enable humans to explore the sea; the process of childbirth is a technique of the body that produces babies; fire is a technology that humans have used to gather together, keep time, and extinguish life and land. However, ships, flesh, and fire are not automatically media in themselves, JDP notes. “They are media for certain species in certain ways with certain techniques” (JDP 2016, 49). This thesis makes use of JDP’s theoretical approach in order to address questions about the relationships between bodies, land, smartphones, and websites in the context of foraging. For example, this approach would consider a foraging basket and an iPhone as technologies, and the embodied knowledge of *how* to forage as technique.

In order to ask questions about the use of digital technologies in the context of human relationships within the more-than-human world, I think and write “in concert with” (TallBear 2014) an intersectional group of scholars. In particular, I refer to the work of scholars who contribute to decolonial theory, intersectional theory, feminist studies, critical Indigenous studies, Indigenous science and technology studies (STS), and multispecies studies, among other literatures. This work brings to the foreground political, ecological, social, and cultural implications of technologies that networked foragers use in practice. The next section explores in greater depth some of these implications of networked foraging, and why the topic is a worthwhile area of research and study.

Why study networked foraging?

Foraging is a life-sustaining and deeply meaningful activity for many people. Foraging rights have been highly contested throughout history, with those in power—often affluent, white men—using militaristic, political, legal, and economic means to restrict the land ownership and access rights of other peoples (e.g., Dunbar-Ortiz 2014; HoSang, LaBennett, and Pulido 2012; Halvorson and Reno 2022; Saito 2020). Within the past couple of years, the recent global COVID-19 pandemic sparked a resurgence in interest in foraging in the U.S., as the country’s economy and food security became more precarious (Clouse 2022).

However, many types of foraging restrictions remain in place and enforced across different levels of government in the U.S. (Linnekin 2017). Being landless or having limited access to land on which to forage can fundamentally threaten or undermine one’s culture, health, spirituality, language, and economic and political independence in many ways. Put differently, anyone with a body that exists in physical space needs land on which to live, as well as direct or indirect access to land from which to nourish themselves. Therefore, access to land (and, by extension, the right to forage) is vital to all humans and remains highly politically contested in the U.S.

Furthermore, studying *networked foraging*, in particular, brings to the foreground power dynamics arising from the operation and use of digital products, services, and infrastructures. Such objects, services, and entities are often owned and managed by multinational technology companies including Alphabet Inc., Apple Inc., Meta Platforms, Inc., and Microsoft Corp. These companies are implicated in global sociopolitical events and systems, including human rights abuses (Jørgensen 2019) and surveillance capitalism (Zuboff 2019). This thesis explores the history of foraging rights in the U.S.

in order to situate contemporary networked foraging practices within the broader context of settler colonialism, systemic racism, and capitalism.

To networked foragers today, foraging may appear to offer a means of (re)“connecting” with—and developing new understandings of—the environment and one’s role within it. On the contrary, as Pellow (2017) notes, humans have always been fundamentally interconnected with our more-than-human relations and ecosystems. However, humans today are witnessing widespread “frictions, tensions, and harms” (Pellow 2018, 2) to those relationships. In the age now often referred to as the “Anthropocene” to denote human domination of the earth, learning how to forage may, for some, be a way of beginning to repair those relationships. Foragers often learn through practice how to identify plants, and may develop expertise in ecology and botany, among other fields. The digital tools foragers use today meaningfully frame notions of environment and species, among other concepts and categories, through the way in which they are designed and the types of content they provide. This thesis explores the role that digital tools play in mediating the relationship between humans and the land, as well as the way in which digital tools may privilege some forms of science, knowledge, and representation of self and environment. Amidst the shifting environmental conditions, mass displacement and migration, and widespread industrial pollution, critical evaluations of the tools we use to learn about and navigate the world are more important than ever.

Notes on terminology

In the U.S., foraging is generally understood today to mean “to rove or hunt about as in search of supplies,” (OED Online 2021) for food, medicine, and other human needs. The word derives from the

French verb *fourrager*—to “rummage around” (OED Online 2021). What counts as “foraging” has been contested within and outside of academia (Harris 1989; Bird-David 1992; Ingold 2000; Kelly 2013), so I approached my research with an open mind as to its definition, using the word itself as an entry point to understand how others make sense of the practice and go about learning how to forage. In doing so, this work does not account for communities of practice that do not use the term “foraging” because they use different words to describe what they do, use languages other than English, and/or do not use the internet or publish content online.

In a constantly-changing world with a multiplicity of epistemologies, cultures, and languages, it is important to recognize that no one word or practice is universally relevant or meaningful. My use of the term “foraging” in this thesis is not intended to supersede other ways of referring to or understanding hunting/gathering/food-procuring/etc. practices. Rather, the term is meant to sharpen focus on a range of practices I interpret in this project as “related,” in order to find points of connection with contemporary foraging practices in the U.S., such as I will explore in subsequent chapters.

Chapter summaries

I will organize the chapters in this thesis as follows. The second chapter, “Silicon transcendence: The ideological origins of networked foraging infrastructures” examines the history of foraging through an exploration of two key infrastructures: the U.S. high-tech industry and the private property and federal land systems. I begin by briefly tracing the historical development of the U.S. high-tech sector in Silicon Valley, which produces technologies many networked foragers use today. I describe the dominant ideology of the sector, called the “Californian Ideology” (Barbrook and Cameron 1995), as

well as critiques of that ideology from decolonial, Indigenous, and feminist scholars. Next, I explore the history of the infrastructure of private property and federal lands within the U.S. legal system. Through three brief case studies, I show how the private property and federal land systems developed over time to support the agendas of European colonists, white supremacists, and the U.S. federal government. I also highlight some of the ways in which the closing of the commons in the U.S. South and the development of the U.S. National Parks and Forest Services have historically denied black people, Indigenous peoples, and people of color access to land and, ultimately, foraging rights. Overall, I argue that these networked foraging infrastructures have violent and racist histories, and contribute to ongoing injustices. The racist, capitalist, and colonial values embedded in the U.S. high-tech sector and private property and federal land systems have historically been harmful to human and other-than-human bodies and landscapes. The values and relations these systems represent are important infrastructural elements of the landscape that produce unequal access to land.

In the third chapter, “Getting situated: Related literature and research methods,” I provide a brief review of academic work that explores the ways in which racism, colonialism, and capitalism operate in cyberspace. In this chapter I describe the results of two thematic analyses that I performed on Instagram and Facebook posts, respectively, in order to contextualize networked foragers’ posts on social media platforms. Finally, I describe the way in which the results from the thematic analyses, as well as various scholarly work, informed the approach I took to designing and conducting the interview-based portion of my research.

In the fourth chapter, “Orienting and identifying: ‘Skilled vision’ and Western technoscience,” I discuss how my interviewees learned about their local environment and began to forage. I begin by

describing how my interviewees used digital technologies such as smartphones, Google Search, Google Maps, Facebook, and Instagram to learn about the local/regional environment and unfamiliar species. Next, I discuss how my interviewees developed a group-based “skilled vision” in order to develop multi-sensory familiarity with other species and communicate with other networked foragers. Finally, I describe the way in which my interviewees assessed the “expertise” of other networked foragers. I examine these practices with particular regard to the norms and practices that favored some people and forms of knowledge over others.

The fifth chapter, “Harvesting and consuming: The biopolitics and ethics of consumption” investigates how my interlocutors used media technologies to determine how and whether to harvest and consume something. I examine the ways in which my interlocutors described assessing the edibility/toxicity of different species; using their bodies as tools with which to maintain their local environment through consuming invasive species; and consuming local foods to become part of the ecosystem and intimately connect with other beings. This chapter explores the ways in which my interlocutors negotiated precarious new relationships with other species, mediated by a discourse of risk mitigation that often located toxicity within “other” bodies, rather than as incompatible relationships between bodies, and also often neglected to account for human-made toxicants present in the environment. Finally, this chapter discusses the controversial practice of “pick shaming” (objecting on moral grounds to someone’s harvesting practices) and how the systematic blocking of pick shamers in online forums diminishes the possibility of collectively discussing the ethics of foraging.

The sixth chapter, “Recording: ‘A living tree of life’ on social media platforms” explores the ways in which my interlocutors record and publish to the web information and experiences from their

foraging journeys, including DNA sequencing information, photos of harvested foods, recipes for meals to cook using foraged ingredients, and personal reflections. I describe how my interlocutors' perceptions of social media algorithms shaped what kinds of content (and when) they posted to the web, demonstrating how the ever-shifting operations of major tech companies materially shape the archives and interactions of networked foragers.

The seventh and final chapter, "Anti-conclusion," summarizes my findings and, like a mushroom, sporulates ideas for possible future research.

Given that I am an active participant in this research project, this thesis will also include autoethnographic "interludes" between some of the chapters. These interludes are inspired by those included in Anna Tsing's *The Mushroom at the End of the World* (2015) and, in a similar vein, are sensory descriptions of my experience as a networked forager in Pasadena, Calif.; Cambridge, Mass.; and Westerville, Ohio. These interludes allow me to more explicitly acknowledge my own stakes in this research project, including the ethical dilemmas I experienced and forms of privilege I possessed as a networked forager. Furthermore, they allow me to demonstrate the "situatedness" of this research project, and the "partial perspective" that I bring to this topic, based on my upbringing and educational background (Haraway 1988).

{ Interlude 1 }

Pasadena, Calif.— The midmorning air smells of desert dust. It’s around 10 A.M. Pacific Time on May 24, 2021 and it’s already about 79 degrees Fahrenheit outside. Under the sun’s glare, I walk the rocky path along the Arroyo Seco (Spanish for “dry creek,” according to Google Translate) trying to find a plant whose name I already know. Very little looks familiar, although I’ve walked here many times



Figure 1. Telegraphweed’s profile, on the Seek by iNaturalist app.

before. This is the first time I’m really focusing my attention on the vegetation, trying to identify something that might be edible or usable in some form or another. The only plants I can name are some of the most commonly cultivated ones in Southern California: bougainvillea, olive trees, barrel cactus, and eucalyptus trees. Otherwise, the landscape is full of shrubs, small grassy plants, and trees that seem to blur together into a monolithic desertscape.

On this first foray, I feel a heightened sense of my status as an outsider to this ecosystem and geographic region. I am here in Pasadena because this is where my partner’s family lives, and we have temporarily relocated here during the COVID-19 pandemic while his work and my academic studies can be done remotely.

Crouching down next to a shrub with tiny, rigid leaves, I pull out my iPhone and launch the Seek app, which is a plant identification / citizen science app made by iNaturalist. Using

Seek, I take a photo of the shrub. After a moment, the app declares: “Camphorweed, *Heterotheca*

subaxillaris.” The photo of camphorweed that the app displays as a result doesn’t look exactly the same as the plant that I’m apprehending. I snap another photo of the shrub, and the app’s algorithm reassesses. “Telegraphweed, *Heterotheca grandiflora*,” says the app. I read Seek’s “About” section for this species, which draws information from Wikipedia, including the plant’s common name and lineage according to the Linnaean taxonomic system, as well as areas to which the species is native. A “Range Map” shows where other Seek users have observed the same species. The app also provides a chart depicting the species’ “seasonality,” (with no labeled units along the Y axis) and shares information about “similar species” such as Hairy Goldenaster and Camphor Daisy, although it’s not clear how these results were selected for display.

As I carefully look at the plants, snap photos, and take notes on my journey, I become more



Figure 2. Sacred datura.

aware of how differently I am using this space compared to the other humans around me. The half-dozen or so walkers and runners that I can see along the Arroyo Seco path appear largely disinterested in the vegetation. Trying not to feel conspicuous, I return to identifying several other plants around me using Seek. The app claims they are Sacred Datura, Wall Barley, Blue Plumbago, and Redvein Abutilon, each of which have complicated scientific names and multiple common names. At some point, a notification appears on my phone, and I see that

Seek has awarded me a badge for identifying 15 species. I quickly

dismiss the notification, disinterested in the gamification aspect of this app.

Continuing my exploration of the different species, Seek tells me that one of the plants I photograph is called Laurel Sumac. The linked Wikipedia article says that the Chumash—an Indigenous people of the central and southern California coastal areas—have traditionally used this plant in tea or ground it up and made it into flour. I wonder whether, if this is indeed Laurel Sumac, it is safe for me to eat or whether toxic chemicals from a nearby road might have been absorbed into the plant.

Some of these plant identifications—such as Cliff Aster with its distinctive squared-off petals—appear to be spot-on. Others, I’m not as sure about, since the appearance of a living plant at a particular point in its life cycle may not happen to match perfectly with the profile photo of the plant displayed by the app. I begin to wonder under what conditions I’ll ever trust Seek’s plant identification algorithm enough to ingest unfamiliar plants from my foraging trips.

I’m starting to feel a little too sweaty, hot, and overwhelmed by all of the organisms that I have yet to photograph using Seek. It seems like the more species I try to identify using the app, the more new



Figure 3. Here, I am holding my notebook, pen, and a Cliff Aster flower.

and unfamiliar plants emerge in the surrounding desertscape—the monolith starts to break apart into a million tiny, differentiated organisms. I feel a slight headache coming on from snapping so many photos and reading such tiny text on the Seek app. I begin to crave a multi-sensory way of learning the plants, rather than relying on visual information alone. My eyes feel tired from so much careful looking, but my other sensory systems are bored.

Chapter 2

Silicon transcendence: The ideological origins of networked foraging infrastructures

To those without knowledge of the history of foraging and land rights in the United States, networked foraging may at first glance seem to be merely a trendy hobby for the environmentally conscious and tech-savvy. For some people, it may be easy to imagine that foraging is simply an exciting, new activity to share on social media, a way to “connect” with the environment and oneself, or a means of learning how to find and harvest food locally. In the U.S. and other countries, many networked foragers are using social media applications and digital tools like Google Maps, Seek by iNaturalist, Instagram, Facebook, TikTok, and YouTube, among other social media, to learn about foraging, discuss the practice with others, go out on foraging journeys, and share their foraging knowledge and experiences. On TikTok, for example, the multimedia artist Gabrielle Cerberville (@chaoticforager) posts videos demonstrating how to forage and prepare food using foraged ingredients to over 875,000 followers, as of this writing. In one recent video, which has been viewed over 335,000 times on TikTok, Cerberville (2021) demonstrates the “magic trick” of cutting into a *Boletus subvelutipes* mushroom and watching its flesh turn blue. However, foraging in the U.S. has a long and meaningful history that is not often addressed in viral TikTok or YouTube videos, or on Instagram posts. The political implications of networked foraging today become more apparent when one considers the histories of some of the practice’s fundamental infrastructures.

In this chapter, I examine the history of foraging by discussing the development of the U.S. high-tech industry and private property and federal land systems within which networked foragers act today.

This chapter begins by briefly tracing the historical development of the U.S. high-tech sector in Silicon Valley. It describes the dominant ideology of the sector, called the “Californian Ideology” (Barbrook and Cameron 1995), as well as critiques of that ideology from decolonial, Indigenous, and feminist scholars. Next, this chapter uses three case studies to explore the development of the federal lands and private property systems within the U.S. This section emphasizes the ways in which the closing of the commons and the development of the U.S. National Parks and Forest Services have historically denied black people, Indigenous peoples, immigrants, and people of color access to land and, ultimately, foraging rights. At the same time, the closing of the commons and development of the federal land systems may be tied more broadly to colonial initiatives that dispossess people from their homelands and selectively erase them from history in order to profit from land. Taken together, this chapter argues that the U.S. high-tech industry and land ownership infrastructures within which contemporary networked foragers act are underpinned by colonial, capitalist, patriarchal, and white supremacist logics that have devastated human and more-than-human bodies and landscapes. Taking inspiration from Moore’s (2011) concept of capitalism as world-ecology (i.e., ecological regime), this chapter sketches some of the ways in which capitalism, colonialism, and white supremacy converge to constitute an ecological regime that transforms bodies and land.

High-tech infrastructure: Ideological origins of Silicon Valley

In this section, I will briefly trace the early history of the U.S. high-tech sector in the southern part of the San Francisco Bay area (roughly overlapping geographically with the Santa Clara Valley), colloquially known as “Silicon Valley.” I will discuss some of the ways in which racism, sexism, and

colonialism were formative of the U.S.'s high-tech industry in Silicon Valley. I will then describe the “Californian Ideology” that Barbrook and Cameron (1995) argue permeates Silicon Valley-based institutions—and has come to infuse institutions around the world—as well as critiques of this ideology and Silicon Valley.

Early history of Silicon Valley

Silicon Valley is generally regarded as the birthplace and headquarters of the high-tech industry in the United States, and it is well-known and widely copied around the world (e.g., “Silicon Roundabout” in London; “Silicon Savannah” in Nairobi; and “Silicon Alley” in New York City). Beginning at least since 500 C.E., the area was originally inhabited by approximately fifty independent nations of the Ohlone/Costanoan people with a vibrant market economy and equitable distribution of natural resources, including turquoise, obsidian, soapstone, and cinnabar (Park and Pellow 2002). However, the land was taken over by Spanish colonists starting in the late 18th century (Park and Pellow 2002). Believing that this land was a “pristine wilderness shaped entirely by the hand of God” and populated by “heathens” (Park and Pellow 2002, 26), the Spanish colonists enslaved the local Indigenous people and forced them to convert to Christianity or be executed. The Spanish empire grew by exploiting Indigenous labor and knowledge, and Spanish, Mexican, and other colonists devastated the environment through overhunting, extensive livestock grazing, the introduction of non-native species, and other actions (Park and Pellow 2002). After the Mexican War of Independence from Spain, in 1821 the territory became part of Mexico. In 1848, California was ceded to the U.S. following the Mexican-American War, becoming a U.S. state two years later (Morgan and McNamee 2021). Starting in 1848,

the Gold Rush transformed the land as immigrants arrived (mainly white men) to pursue the “American Dream” of striking riches. During this time, Indigenous peoples and people of color were subjugated to the lowest tiers of the labor market, performing the harshest and lowest-paid forms of labor in gold mines, with exposure to toxic substances such as mercury (Park and Pellow 2002). The colonial and capitalist exploitation of land and labor starting in the late 18th century would echo into the 20th and 21st centuries in the place that came to be called Silicon Valley.

Much of the scholarship examining the emergence of Silicon Valley as a technology and innovation hub in the post-World War II era centers on the synergistic confluence of military-industrial research funding from the U.S. Department of Defense during the Cold War, large venture capital inflows, and academic work and leadership at Stanford University (Leslie 1993; O’Mara 2019). As Stuart Leslie has written, the so-called “golden triangle” formed by military agencies, private high-tech companies, and research universities like Stanford brought about a new approach to science and technology in the postwar era that “blurred traditional distinctions between theory and practice, science and engineering, civilian and military, and classified and unclassified” (1993, 2). This approach was interdisciplinary, entrepreneurial, and heavily influenced by cybernetics’ rhetoric of systems and information (Turner 2010).

A new group soon joined with the “golden triangle,” giving rise to a distinctive ethos in Silicon Valley with a lasting legacy. Starting in the late 1960s, a group Turner (2010) refers to as the New Communalists began to settle in the area. The New Communalists were made up primarily of young, socioeconomically privileged white people interested in going “back to the land,” living in communes, and transforming their consciousness through the use of recreational drugs (Turner 2010). Related

white practices of “wilderness survival” have been variously critiqued as reinforcing notions of white people as “civilized,” and “rightful owners” and “protectors” of land (Cronon 1999; Corliss 2019; Morton Turner 2002). Turner (2010) argues that this group of New Communalists was introduced to startups in the tech sector and research groups in academia by such “network entrepreneurs” as Steward Brand who edited the Whole Earth Catalog, a magazine and product catalog with an emphasis on self-sufficiency, access to tools, and “do it yourself” (DIY). New Communalists embraced technology and cybernetics as means by which to shape their environment, fulfill their utopian ideals, and bring humans together (Turner 2010). What emerged from this fusion of military-industrial science, capitalism, and techno-utopianism was what the British media theorists Barbrook and Cameron (1995) termed the “Californian Ideology.”²

Criticisms of the Californian Ideology

The enchanting, techno-utopian mythology surrounding Silicon Valley belies the lived realities of the U.S. high-tech industry and its supply chains. In their seminal essay, Barbrook and Cameron (1995, 8) critiqued Californian ideologues as technological determinists enjoying “the cultural freedoms won by the hippies” while rejecting true systemic change. Instead, Barbrook and Cameron (1995) argue, the ideologues accepted the “natural laws” of technological progress and valorized rugged individualism and free-market capitalism with white supremacy at their cores (1995, 10-11). Barbrook and Cameron

² I use Barbrook and Cameron’s (1995) “Californian Ideology” term here with the understanding that this ideology is not meant to be representative of the whole U.S. state and its peoples. Rather, the term denotes the state in which the ideology originated, according to Barbrook and Cameron (1995).

(1995) argue that the Californian Ideology is both blind to and dependent upon the social and racial fragmentation that gave rise to it. Consistent with this observation, Cherokee, Hawaiian, and Samoan digital media theorist Jason Edward Lewis writes,

Designers and developers of media technology choose what counts as knowledge, what sorts of operations we can perform on that knowledge, and how that knowledge becomes manifest in the world. The fact that they are often doing so without being conscious or deliberative about how they are re-enacting a matrix of fundamental assumptions about human nature and human work in no way lessens the impact of those decisions (2014, 61).

Barbrook and Cameron contend that the Californian Ideology reinforces existing power dynamics, since “the deprived only participate in the information age by providing cheap non-unionised labour for the unhealthy factories of the Silicon Valley chip manufacturers” (1995, 13). Although this unequal participation in the information age may look somewhat different today, there remain considerable inequalities in who has control within—and benefits from—the U.S. high-tech industry (Precarity Lab 2020). Others have also critiqued the political economy and technoscientific approach of Silicon Valley. In her influential essay “The Cyborg Manifesto,” originally published in 1985, Donna Haraway writes of “women in the integrated circuit” to refer to the way in which people around the world in “electronics-dependent jobs” are restructured according to gender, race, and class by “the social relations of science and technology” (2016, 37-38). In a similar vein, Karen Hossfield (1994) has written about the ways in which women of color were hired as cheap laborers to perform “low-tech” manufacturing assembly work within the high-tech industry, underpinned by “capital logic” that devalued people according to their racial, immigration, and gender status. More recently, Lisa Nakamura (2014) has highlighted the role of Navajo women (and some men) in performing low-paid electronics and digital device production work between 1965 and 1975 at Fairchild Semiconductor’s 33,000-square-foot

facility built on Navajo reservation land in New Mexico. Such work in electronics and digital device manufacturing exposed workers to toxic substances and hazardous working conditions, within a system of temporary labor that made it more difficult for workers to identify the sources of health issues, advocate for their rights, and unionize (Park and Pellow 2002; Sonnenfeld, Allan, and Pellow 2006; Precarity Lab 2020). Taken together, these scholars (among others) reveal and extensively document the ways in which Silicon Valley's elites deploy capitalist and technoscientific logics to legitimize supposedly-meritocratic hierarchies among workers along dimensions of gender, race, class, and immigration status.

Other scholars have brought to the foreground the ecological destruction of Silicon Valley by the operations of high-tech companies. For example, Park and Pellow (2002) have discussed the impact that the semiconductor manufacturer Signetics Corporation had on the health of its employees and surrounding land as a result of using toxic chemicals. Signetics used three female workers like “canaries in a coal mine” to detect the presence of noxious fumes around the manufacturing facility (Park and Pellow 2002, 23), which rhymes with the disproportionate exposure to toxic substances that Indigenous peoples and people of color experienced during the earlier Gold Rush period. Sonnenfeld, Allan, and Pellow (2006) have explored the environmental impact of Silicon Valley across the supply chain and throughout the life cycles of the products the industry produces. Lécuyer (2017) has written about the efforts of worker activists to make corporations in Silicon Valley—particularly microelectronics firms—accountable for their pollution of the local environment. Such scholarly work draws attention to the interconnected relationship between ecological destruction and racism, sexism, capitalism, and colonialism that underpins the Californian Ideology.

The Californian Ideology's influence has reached well beyond the U.S. high-tech sector and has reconfigured state governments, private businesses, universities, and other organizations, with significant consequences for people around the world. For example, Jonathan Crary (2014) has written about the ways in which digital-technology-infused capitalism in the 21st century erases traditional boundaries between work and leisure, office and home while encouraging round-the-clock productivity, consumerism, and surveillance across many domains of human life. Seeing the palimpsest of settler colonialism in contemporary racial capitalism around the world, Vergès (2021) calls attention to the way in which ongoing coloniality allows many humans to be considered as disposable, such as essential workers in the context of the COVID-19 pandemic. Nakamura's Precarity Lab (2020), a research team based at the University of Michigan, has advanced the term *technoprecarity* to describe the ways in which digital technologies create and exploit flexible labor and shift accountability and risk from organizations to individual people. This shift disproportionately accelerates premature exposure to death and debility among people of color, black people, Indigenous people, women, migrants, ethnic and sexual minorities, the socioeconomically poor, and peoples in the global south (Precarity Lab 2020). The Precarity Lab (2020) draws parallels between the ways in which scientific laboratories, colonies, plantations, factories, prisons, and other entities reproduce precarity through a lab-based model of experimentation and exploitation. This framework positions technoprecarity as a contemporary generalized condition and mode of governance made legitimate and unquestionable through claims to efficiency, profitability, optimization, moral progress, and innovation (Precarity Lab 2020)—hallmarks of the Californian Ideology. As such, “laboratories” led by the powerful operate on behalf of empires in the form of nation-states, corporations, universities, cities, and other entities, and they extract value from

labor, flesh, and land (Precarity Lab 2020). Similarly, Anna Tsing (2012) has critiqued the distinctly American imperative of scalability (a fundamental principle of the Californian Ideology), with its roots in colonialist plantation systems, which has become ubiquitous as a method of “world-making” in business, government, and the tech industry. Tsing defines scalability as “the ability to expand—and expand, and expand—without rethinking basic elements” (2012, 505), precluding the possibility of transformative relationships among a project’s constitutive elements and agents. Tsing (2012) observes that scalability leads to the creation and abandonment of ruins.

Many of the technologies that networked foragers use today are implicated in Silicon Valley’s colonial and racist history, as well as the present-day conditions of global technoprecarity (Precarity Lab 2020; Parikka 2014). Many networked foragers use the products and services of multinational technology conglomerates Alphabet Inc. (whose many subsidiaries include Google, which owns YouTube) and Meta Platforms, Inc. (whose subsidiaries include Facebook, Instagram, and WhatsApp). These tech companies and their digital products and services have been associated with the mass circulation of climate change mis- and disinformation (Lazer et al. 2018; Treen, Williams, and O’Neill 2020; Valerio-Ureña, Asprón, and Salazar 2021), as well as COVID-19 vaccine mis- and disinformation throughout the global pandemic (Yang et al. 2021; Wardle and Singerman 2021).

The harmful downstream effects of the Californian Ideology affect the livelihoods of even the historically privileged. This “affronted class” is made up of newly-precarious, primarily white and educated workers (Precarity Lab 2020). Silicon Valley itself has a high rate of income inequality and homelessness, and even having a six-figure household income is not always sufficient to secure housing (Joint Venture Silicon Valley 2021; Meehan and Turner 2021).

This outcome is not surprising considering the ways in which settler colonialism and the accumulation of capital under racial capitalism are constitutive of Silicon Valley rather than mere byproducts. Such an observation is in accordance with Moore's (2011) critique of Marxian metabolic rift theory (Foster 1999). Moore argues that the theory of metabolic rift is grounded in the Cartesian separation of nature and culture which perceives environmental degradation as an output of capitalism, rather than constitutive of capitalism. Moore (2011) proposes the concept of capitalism as world-ecology, or in other words, an ecological regime that orders symbolic and material relations in the world. In a similar vein, I wish to highlight in this chapter the ways in which capitalism, settler colonialism, racism, and sexism converge as an ecological regime that transforms bodies and land.

JDP's observations of media as "civilizational ordering devices" (2016, 5) dovetail with Moore's formulation of ecology. JDP claims, "Media always concentrate power along all three civilizational axes [psychic, social, and biological], a fact that is easy to miss amid the waves of hype about silicon transcendence" (2016, 7). As technoprecarity intensifies and geopolitical tensions rise amidst ongoing climate change, refugee crises, mass extinctions, and political polarization, we humans must identify and make use of different—but perhaps not new—media for organizing and controlling psychic, social, and biological resources (JDP 2016). Or, as Moore might see it, we must recognize the ways in which racial capitalism, settler colonialism, and other forces mediate symbolic and material relations within and between humans and the more-than-human world.

Such a social transformation calls for elites to recognize the ways in which systems of power have been harmful, including to their own communities and lands. Elites—especially middle-to-upper-class white people like me—are only now feeling the consequences of the socio-technological systems white

people helped to design or applauded from the sidelines. It is essential that elites not seek to restore old claims to power and instead recognize the ways in which those old systems have been harmful to all (Precarity Lab 2020). As the American poet and critical race theorist Fred Moten put it:

The coalition emerges out of your recognition that it's fucked up for you, in the same way that we've already recognized that it's fucked up for us. I don't need your help. I just need you to recognize that this shit is killing you, too, however much more softly, you stupid motherfucker, you know? (Moten and Harney 2013; quoted in Precarity Lab 2020, 73)

The “waves of hype” surrounding Silicon Valley have certainly waned in recent years, as critiques of the U.S. high-tech sector grow beyond non-white, non-affluent communities and become accepted among the white, socioeconomic elite. This transformation is evident from, for example, the 2018 founding of the Center for Humane Technology, led by the American technology ethicist Tristan Harris, as well as the popular 2020 docudrama film “The Social Dilemma,” distributed by Netflix, which critiques social media platforms and surveillance capitalism.

While capitalism, settler colonialism, and white supremacy significantly shape the high-tech infrastructures within which networked foragers act, other important infrastructures to consider include the private property and federal lands systems. The next section will explore the historical development of these infrastructures, their implications for land access and ownership, as well as the violent political, cultural, and economic strategies that enabled them.

Legal infrastructure: Settler colonialism and the closing of the commons

This section will explore the history of conflicts over foraging rights in the U.S. through three case studies. This section illustrates historical developments that closed access to the commons and

ultimately restricted foraging rights in the U.S. These restrictions denied the sovereignty and human rights of Indigenous peoples, black people, people of color, immigrants, women, and the socioeconomically poor, among others, to the economic and political benefit of those in power— often people who were white, affluent men. These case studies are meant to show some of the ways in which settler colonialism, capitalism, and white supremacy act together as an ecological regime and transform bodies and landscapes. The case studies focus on the following topics:

- (1) Foraging-related practices of Indigenous peoples on the land now often referred to as the United States, and conflicts that emerged over foraging rights as European settlers, and later the U.S. Government, encroached on their ancestral homelands through a variety of tactics.
- (2) Conflicts over foraging rights that emerged between black people and white supremacist landowners and politicians in the South following the U.S. Civil War.
- (3) The development of the National Park and Forest Services with their accompanying policies regarding foraging, as well as the ways in which federal regulations and markets interacted to shape mushroom pickers' relations with the land.

These case studies are not intended to offer comprehensive and detailed histories of foraging rights and the private property and federal lands systems in the U.S. Rather, they are intended to gesture toward much broader histories, and help elucidate the historical contexts and political dimensions of contemporary foraging practices.

The first case study concerns Indigenous peoples in the U.S., both before and after European colonization. The peoples of these Indigenous nations, past and present, largely did/would not describe themselves as “foragers” – As Anderson (2005, 2) observes of Indigenous peoples of California,

The terms ‘hunter-gatherer’ and ‘forager,’ inaccurate anthropological labels assigned to most California Indian groups, connote a hand-to-mouth existence. They imply that California Indians dug tubers, plucked berries, and foraged for greens in a random fashion, never staying in any one place long enough to leave lasting human imprints.

Indigenous peoples developed a highly sophisticated range of approaches to relating with and caring for the land (Cronon 1983; Dunbar-Ortiz 2014; Kimmerer 2020; Mt. Pleasant 2015). These approaches were typically embedded within their cosmologies, practices of geographic mobility and seasonal transience, perception and active stewardship of the environment, and other cultural practices (Cronon 1983; Kimmerer 2020; Anderson 2005; Salmón 2020). Similarly, I do not wish to impose the term “foraging” and its variants on historically-situated black and African-American, Southeast Asian, white, and Latinx communities illustrated in the second and third case studies. The peoples in these two case studies may not have used the term “foraging” in the way that this thesis does, if they used the term at all.

Case study 1: Indigenous nations’ foraging and land rights

The first case study concerns the peoples of Indigenous nations in the United States—before there were any such “states” at all. These indigenous peoples called this land their home for many thousands of years prior to the arrival of the European colonists. Over that time, they developed advanced forms of agriculture, politics, and trade, among other things, as well as sophisticated knowledges of—and spiritual relationships with—the land. When the European colonists arrived in the U.S., they already represented a violent legacy of centuries of settler colonialism and expropriation of land in other areas of the world, based on the ideologies of white supremacy and Christian moral authority (Dunbar-Ortiz 2014). They brought these practices to this land, too, and soon introduced the concept of property rights. These changes severely disrupted Indigenous lifeways, including traditional foraging practices, and displaced them from the land to which they were materially and spiritually bound. In this violent

process, the European colonists not only shattered Indigenous traditional lifeways, but also appropriated Indigenous knowledge (including knowledge related to foraging) and lands for the settlers' own use. This transfer allowed the settlers to procure their own foods and other resources for survival, which enabled colonial settlements to grow and prosper. Later actions taken by the U.S. Government forcibly displaced Indigenous peoples and attempted to further erode their culture. However, Indigenous peoples have continued to resist the colonial regime through a variety of measures, including protesting and taking legal action.

Indigenous lifeways and foraging practices

A widely-cited study by Reich et al. (2012) proposes that the first settlers of the Americas, or "First Americans," crossed over a land bridge from Eurasia during the ice ages approximately 15,000 years ago, and then migrated south, splitting into different groups and settling in a variety of areas from the northern reaches of North America to the tip of South America.

These Indigenous nations that settled in the modern-day U.S. frequently depended on foraging, as well as practicing agriculture and other environmental and food procurement and preservation practices (Cronon 1983). According to historian William Cronon (1983), Indigenous peoples living in what is now the New England area adjusted their diets and remained highly mobile in order to consume the foods that were most plentiful at any given time and place. For example, New England summers were abundant with berries, nuts, and other foods (Cronon 1983). In what is now generally the northeastern area of the United States, the Six Nations of the Iroquois Confederacy, also referred to as the Haudenosaunee people, comprised thousands of agricultural villages and areas with abundant game

animals (Dunbar-Ortiz 2014). In the Southern New England area, harvested grains made up approximately one-half to two-thirds of indigenous peoples' diets, whereas farther north where agricultural practices were less common, native peoples foraged for food through hunting and fishing for much of their dietary needs (Cronon 1983). In the Pacific Northwest, Indigenous peoples thrived from their proximity to abundant sources of salmon and other fish, as well as intertidal creatures like clams, scallops, and crabs (Dunbar-Ortiz 2014).

Indigenous peoples developed a range of techniques of environmental management that, among other outcomes, facilitated foraging practices. Anderson writes that Indigenous peoples of California engaged in coppicing (repeatedly cutting down tree stems to ground level), sowing, weeding, thinning, and selective harvesting, among other practices (2005). Some Indigenous peoples were skilled with using fire to shape the landscape to specific ends, such as to encircle and trap wild animals to be killed and eaten, as well as to stimulate plant growth to entice game (Dunbar-Ortiz 2014). Native peoples also effectively imported bison to the east by burning the landscape to turn it into fallows, allowing the bison to have a food source farther and farther from their indigenous habitat in the northern and southern plains of North America. In turn, bison became a vital source of food for the Haudenosaunee people (Dunbar-Ortiz 2014).

It is important to note that Indigenous peoples generally perceived other forms of life in the environment as having agency, honor, and kinship with humans, and these perceptions were embedded in Indigenous cosmologies and relationships of reciprocity with the environment (Dunbar-Ortiz 2014; Kimmerer 2020; Gilio-Whitaker 2019). By the time the European colonists arrived, they encountered not a vast, "virgin" wilderness, but a thriving and highly connected network of Indigenous nations with

a wealth of different forms of knowledge, traditional practices and beliefs, and spiritual connections to the land (Dunbar-Ortiz 2014).

Conflict over Indigenous peoples' land rights

Early colonists at the end of the 15th century and beginning of the 16th century often viewed the landscape as a collection of isolated, extractable “merchantable commodities” that could sell for a profit in England (Cronon 1983). The colonists³ seized Indigenous lands and disrupted their trade networks and agricultural practices, leading Indigenous nations to experience severe food shortages, malnutrition, and starvation, among other negative social, economic, and cultural outcomes (Dunbar-Ortiz 2014). Additionally, as Gilio-Whitaker (2019) and Liboiron (2021) argue, environmental devastation and exploitation were (and continue to be) integral to colonialism and its tactics for expropriating land and amassing wealth and power.

Indigenous peoples resisted colonization by fighting back against the colonists, killing or capturing them, and setting fire to their settlements (Dunbar-Ortiz 2014). However, between the 16th and 17th centuries, the European colonization projects, combined with and reinforced by the lethal effects of disease brought by colonists, reduced the Indigenous population of the Americas by approximately 90 percent (Dunbar-Ortiz 2014). At the same time, the colonists appropriated Indigenous skills, trails, roads, and cultivated lands. They learned from Indigenous people they held

³ Early colonists were a diverse lot, made up of adults and children from many parts of Europe, such as England, Spain, Russia, and France. Additionally, some of the colonists were indentured servants who had fewer rights and privileges than more affluent colonists. There were distinct power relations among the members of these colonial groups that this thesis does not explore in detail. Please see Taylor (2002).

captive where to find water, oyster beds, and medicinal herbs, among other resources, and took control of farmland and deer parks that had previously been managed by Indigenous people (Dunbar-Ortiz 2014). Historian Francis Jennings argues that had the Indigenous nations themselves not been so advanced, the colonists would likely have failed to survive and build a society that would lead to the establishment of the United States (Jennings 1975).

According to Dunbar-Ortiz (2014), after the U.S. became an independent nation in the late 18th century, the peoples of Indigenous nations who remained lived relatively autonomously, although heated conflict and violence still occurred between the settlers and them. Faced with such existential challenges as starvation and frequent violent attacks, various Indigenous nations were coerced into signing treaties with the U.S. government to give up their territory in exchange for money and goods (Dunbar-Ortiz 2014). In 1830, President Andrew Jackson signed the Indian Removal Act which led to the forcible removal of Indigenous peoples in the South to federal “Indian Territory” west of the Mississippi River in what became known as the Trail of Tears. Thousands of Indigenous peoples died on or shortly after this forced march from their homelands (Dunbar-Ortiz 2014). Within the first century of the U.S.’s establishment, the government signed over 370 treaties with Indigenous nations. However, by the terms of the 1871 Indian Appropriation Act, the federal government no longer viewed Indigenous nations as independent, and the government halted treaty-making. The federal government would thus make decisions affecting Indigenous peoples without their prior consent or knowledge. Furthermore, by the 1880s, the federal government successfully carried out a campaign to systematically decimate the buffalo population, which had dramatic effects on the livelihoods, economies, and cultures of Indigenous peoples. The U.S. Office of Indian Affairs (established in 1824 and later renamed the

Bureau of Indian Affairs) worked to assimilate Indigenous children in state-sponsored boarding schools and thereby erase generational memory of Indigenous cultures and languages (Dunbar-Ortiz 2014).

Resistance to European settler colonialism

Indigenous peoples continued to resist colonization, protest their treatment by the U.S. government, and demand restitution and self-determination (Dunbar-Ortiz 2014). They began to gain political power and momentum during the Vietnam War era, and the first instance of land restitution to any Indigenous Nation occurred in 1970 (Dunbar-Ortiz 2014). Following more than 60 years of protest by the Taos Pueblo Indians to reclaim 48,000 acres of land originally stolen from them in 1906, President Nixon signed Public Law 91-550 into effect in 1970, which returned the land to them (Dunbar-Ortiz 2014). In a landmark court case in 1974, a U.S. District Court judge ruled in favor of fourteen Indigenous fishing nations from the Pacific Northwest, validating their right to 50 percent of fish taken “in the usual and accustomed places” as designated in treaties from the 1850s (Dunbar-Ortiz 2014, 182). The 1970s marked a new era in which Indigenous peoples in the United States were granted greater self-determination and legal authority by the government, although their ability to recover ancestral territory remained limited (Dunbar-Ortiz 2014).

Case study 2: Black and African-American foraging and land rights in the U.S. South

The experiences of black and African-American people in U.S. history have been profoundly affected by systematic violence and oppression, particularly during the pre-Civil War era when human chattel slavery was prevalent throughout the country. Foraging rights and access to the commons were vital to

enslaved people in the South who otherwise had little control over what and how much they ate. These rights continued to be vitally important to newly-freed black and African-American people after the Civil War, as many were working to exercise their independence. However, these newly-freed peoples confronted opposition on many fronts. Many were effectively forced back into subservient socioeconomic positions and denied the right to own and access land.

Black and African-American lifeways and foraging practices

From the early 17th century and through the American Civil War, human chattel slavery was fundamental to the U.S.'s economic development. Oceangoing ships that were part of the Atlantic slave trade effectively served as “technologies of race-making” that “transformed Wolof Muslims, Biafran farmers, and Akan soldiers into ‘Negroes’ for sale in the Americas” (Rockman & Beckert 2016, 11). People were taken from their homelands on the African continent, forced to undergo hazardous seafaring journeys through the Middle Passage to the U.S. and other countries, and were eventually sold as commodities. For those who came to the U.S., these people were often violently forced to work on plantations established on lands that had been stolen from Indigenous peoples (Rockman & Beckert 2016).

From the time they were boarded onto ships to cross the Atlantic, enslaved people had little to no control over when or what they could eat. By the time they reached the shores of the U.S., many enslaved peoples were malnourished. Enslaved people were given meager meals, when they were given food at all, and if they refused food, they were sometimes forced to eat using instruments that pried their jaws open (Covey & Eisnach 2009). The formerly-enslaved writer and abolitionist Frederick Douglass

recalled being served boiled corn meal in a trough on the ground, as if he and the other enslaved children were “like so many pigs” (Garrison & Douglass, 1849, p. 27). Depending on the types of food available to enslaved people, as well as how the food was stored and cooked, nutritionally-related diseases emerged among enslaved peoples in different areas of the U.S. (Covey & Eissach 2009). Many found ways to supplement their food rations and reclaim control over their diets by—depending on where they lived—growing crops, gardening, and foraging for nuts, seafood, and wild game, including chicken and opossum (Covey & Eissach 2009; Sawers 2015).

Political battles over foraging rights and access to the commons

In the U.S., the institution of human chattel slavery was made illegal in the mid-19th century. The Civil War, which began in 1861, erupted over conflicts between northern and southern states regarding the practice of slavery (McPherson 2003). Amidst the Civil War, Abraham Lincoln signed the Emancipation Proclamation, which went into effect at the beginning of 1863, designating more than 3.5 million enslaved people in the Confederate states as free citizens (U.S. National Archives n.d.). In 1865, the Thirteenth Amendment to the U.S. Constitution abolished the practice of slavery throughout the U.S., including in the northern states, while the Fourteenth Amendment in 1868 granted citizenship status and voting rights to formerly-enslaved people born or naturalized in the country (U.S. Senate n.d.).

Unfortunately, formerly-enslaved people soon found that legal freedom didn't necessarily guarantee economic liberation. Black and African-American people in the South were increasingly dependent upon common resources for foraging and allowing livestock to graze. Some formerly-

enslaved people traded or sold foods they had foraged (Sawers 2015). In turn, hostile white landowners and politicians used a variety of tactics to force formerly-enslaved people back onto plantations as a source of cheap labor. According to historian Steven Hahn (2005), during the post-war Reconstruction era in the South, newly-freed black citizens used their voting rights—albeit, unevenly across the states and within states—to attain representation in local government and state legislatures. With their new power, some black Republicans were successful in raising taxes,⁴ in some cases forcing the addition of more plantation land onto the market so that black people might have greater opportunities for owning land (Hahn 2005). They were also able to change tax policy favorably for newly-freed people in some areas, and slow or halt entirely a flood of local policies that prevented individuals from selling agricultural produce after dark, as well as laws aimed at prohibiting the grazing of livestock or game hunting on unenclosed land (Hahn 2005). Black politicians were also able to hold a majority of legislative and committee seats in South Carolina and press for issues such as expanding black landowning rights (Hahn 2005).

Although black people were able to wield some political power at the local and state levels, ultimately they were unable to garner sufficient power to prevent the closing of the commons. The national Republican party failed to embrace them and their efforts to enact change were often undercut by white noncompliance within government, among other factors (Hahn 2005). In many places throughout the South where white plantation owners held a great deal of political power, the commons were effectively closed through the enactment of local stock laws, which required livestock owners to

⁴ Presumably, property taxes, which would make holding land more expensive.

fence in their livestock on private property (Hahn 2006; Sawers 2015). These stock laws replaced so-called “fence laws,” which had previously required crop owners to fence in their crops, and take on the liability of wandering livestock potentially damaging their crops or becoming injured on their property (Hahn 2006; Sawers 2015). The replacement of fence laws with “stock laws” effectively privatized land that had previously been public and freely available as pasture, shifting power away from landless black and white livestock owners and toward property owners and urban dwellers (Hahn 2006; Reidy 1992). One affluent white planter, John Dent, wrote, “All the negroes and whites *who own no land* [emphasis in original], and by right and justice should not... vote... will vote for fencing [of crops and not animals]. It is simply a question of labor and capital” (Mathis & Mathis 1977, as quoted in King 1982, p. 57). Although whether these laws were racially motivated on a widespread basis has been contested (Kantor & Kousser 1993), they often prevented newly-freed black people and poor white people from keeping work animals and using the land as pasture for livestock. They also subjected these groups to the risk of losing their livestock in consideration of any damage done to the private property (Hahn 2006; Reidy 1992). Citizens who did not hold land had to obtain contractual rights to forage or allow their animals to graze, and failure to obtain such contractual rights could be met with criminal prosecution (Reidy 1992). In Mississippi in 1880, stock-law counties were inhabited by 68 percent of the state’s black population, and in Alabama, the figure was 81 percent (King 1982). In both states, the counties that were populated by a large majority of black people were the first to close the range (King 1982). According to Hahn, in some southern states, landless black people showed deep resistance “wherever it could be expressed” to the closing of the commons (1993, 252). The closing of the range across the

Southern states occurred gradually, perhaps slowed by proponents of fence laws, and was not completed until the 1970s (King 1982).

As it turns out, across the U.S., black ownership of private agricultural land reached its climax in 1910, with 16 to 19 million acres under black ownership (Gilbert et al. 2002). According to one estimate, by the end of the century, that number would fall to just under 8 million, or just under 1 percent of private agricultural land, while white people controlled 98.1 percent (Gilbert et al. 2002).

Case study 3: Mushroom pickers in the U.S. National Parks and Forests

This final case study will explore the early development of the U.S. National Park Service and U.S. Forest Service, as well as the colonial and capitalist approaches that formed the basis of these organizations' respective uses of the land and underpinned their variegated array of foraging restrictions. I will briefly discuss the impact some of these restrictions had on a community of Southeast Asian refugees, white people, and Latinx people who foraged for matsutake mushrooms, based on anthropologist Anna Tsing's (2015) research in the National Park and Forest lands of Oregon.

The Development of the U.S. National Park and Forest Services

Counter to the widespread narrative that the U.S. National Parks were set aside and conserved based on environmentalist and patriotic virtues, the first park emerged largely to serve corporate interests. In 1872, the federal government designated more than 2 million acres of land, largely in northwest Wyoming, as Yellowstone National Park (Sellars 2009). The designation of Yellowstone as a national

park was prompted by the lobbying efforts of the Northern Pacific Railroad Company which aimed to monopolize rail service in the area as part of a growing tourism industry (Sellars 2009).

The land that made up Yellowstone had previously been inhabited and altered by Indigenous peoples, including the Ahwahnechee people, for over 11,000 years. After European colonists arrived and expropriated the land, settlers formed an informal civilian administration to govern local use of the area, including foraging for food, harvesting timber, and using the commons as pasture for livestock, among other activities (Jacoby 2014). The 1872 legislation marked Yellowstone as a federally-protected land “set apart as a public park or pleasuring-ground for the benefit and enjoyment of the people” (National Park Service, n.d.). This federal protection of land was in stark contrast with the widespread exploitation of public lands typical of the Gilded Age, as well as the federal government’s active divestiture of public lands through shelling out railroad land grants, as well as land grants for homesteads, mining operations, and timber harvesting (Sellars 2009). The creation of the National Parks reinforced the expropriation of Indigenous peoples from their ancestral land, and also forced out the local settlers, putting the land under federal government control indefinitely (MacDonald 2018; Spence 1999; Sellars 2009).

Over time, more national parks were established, and the NPS evolved as an organization. According to Sellars (2009), the immense size of the first national park was less a result of efforts to conserve vast areas of “wilderness” than the result of recommendations by geologist Ferdinand Hayden who sought to protect lands most likely to contain significant thermal activity. However, Yellowstone’s vast size established the precedent of setting aside large areas of land as park area, although the National Parks system would later come to include much smaller parks, too (Sellars 2009). Over the coming

decades, the number of new national parks grew relatively slowly, but the pace picked up in the early 20th century, largely spurred on by growing conservation concerns, as well as self-interested railroad companies wanting to protect spectacular natural landforms as tourist attractions (Sellars 2009). The Organic Act of 1916 established the National Park Service (NPS) as an agency of the Department of the Interior, allowing management of the parks to be more formal and systematic (National Park Service 2021). As the NPS developed, Romantic-inspired notions of “pure” wilderness intertwined with patriotism, stimulating a nationwide interest in park tourism (Sellars 2009; Cronon 1996).

The development of the National Parks was underpinned by a colonial narrative that positioned the parks to affluent tourists as “pristine wilderness” “untouched” by humans. The NPS intentionally obscured the fact that these lands had been previously occupied by Indigenous peoples for thousands of years, even as they used Native American imagery and dancers to attract and entertain visitors (Burnham and Alborough 2000). The NPS’s interest in promoting tourism led to the construction of telecommunications systems, energy production and distribution facilities, hotels, roads, trails, restaurants, dumps, dams, mining sites, logging areas, and other facilities on national parkland (Sellars 2009). The paradoxical idea of preserving wilderness through the development of such areas for public use and enjoyment was an enduring concept that underpinned the development of the park system’s systematic approach to conservation and its lobbying for greater funds from Congress (Sellars 2009). Although vast areas of the parks remained undeveloped, those lands were often subject to arbitrary environmental management approaches that sought to protect charismatic megafauna, preserve scenic forest areas, and increase fish populations through stocking (Sellars 2009).

The NPS has maintained formal foraging rules since 1960, with modest allowances for foraging, including allowances specifically for Indigenous peoples (Linnekin 2017; Burnham and Alborough 2000). However, since 1983 the agency's default stance on foraging has been one of prohibition, a policy that is in line with the agency's broader conservationist approach that seeks to limit visitor disturbance in the environment (Linnekin 2017; Jacoby 2014). Unless specifically allowed by a park superintendent, it is generally forbidden to forage for or sell certain wild foods and/or harvest more than the allowed amount of certain foods (Linnekin 2017). Superintendents of each NPS unit may, at their discretion, permit the foraging of certain wild foods, such as nuts or berries, and they may stipulate the size, quantity, method of harvesting, or locations where such foods may be foraged (Linnekin 2017). As Linnekin (2017) notes, these rules can change from year to year within the same park or be dramatically different in two adjoining parks, often making foraging rules complex and confusing. Another source of confusion is that NPS rules for foraging are often different from rules within national forests, with which they are sometimes geographically contiguous.

The NPS developed alongside the U.S. Forest Service, which was managed separately under the Department of Agriculture. According to historian Samuel Hays, against the backdrop of rapid deforestation over the course of the century, in 1891, a new public lands law authorized executive orders to establish parcels of land as forest reserves, with the objective of maintaining these lands as public assets and potentially forestalling a "timber famine" (2009, 10). These forest reserves were under the direct management of the Department of the Interior until 1905, when the Forest Service was established and granted control over them (Forest Service n.d.). Hays (2009) argues that the Forest Service's early approach to managing the lands was ironically one of liquidation. Based on European forest

management practices, the Forest Service began to harvest timber from its own old-growth forests as a way of maintaining what it perceived as the forest's productivity and usefulness (Hays 2009). In the early years of public land management of these reserves, much of the administrative work involved expelling people from the land who had developed homesteads there, used the land for hunting or as pasture for livestock before it became public property (Hays 2009). The Forest Service did not develop close ties to industry until World War II, when the two worked to supply timber for the war effort and then, in the postwar years, worked to satisfy the high demand for timber to construct new homes (Hays 2009; Tsing 2015). By the beginning of the 21st century, the Forest Service had come full circle from its original mission of pursuing long-term "sustainable yield," to instead maximizing production of timber, and then returning to its original environmental and ecological mission, including with a new focus on biodiversity (Hays 2009).

In the mid-1970s, new legislation was passed to establish an environmental planning process to restore the forests and promote ecological goals (Hays 2009). Based on the perception that the increased human use of natural resources was inherently damaging, the Forest Service restricted public use of its lands, including foraging activities, in order to protect the forests' ecological health (Hays 2009). Between 1977 and 1995, a series of rules regarding the use and harvesting of timber and forest products, as well as hunting and fishing, within National Forests were created and amended, ultimately prohibiting most of these activities unless authorized by a special permit or contract (Department of Agriculture n.d.).

The U.S. National Parks and Forests were thus part of a broader shift from local, informal customs, rules, and ecological practices to a formal, bureaucratic system of state and federal control over

the environment (Sellars 2009; Hays 2009). Even as the government sought to preserve and sustainably use lands under the supervision of the NPS and Forest Service, ultimately these agencies, too, significantly altered the environments entrusted to them, treating them variously as tourist attractions and timber plantations, and often constrained individuals and groups, particularly Indigenous groups, to very limited forms of engagement with the land (Sellars 2009; Hays 2009; Jacoby 2014). Over time, state and city governments also established parks, with their own environmental management practices and visitation policies (Sellars 2009; Linnekin 2017). Restrictions on foraging in national parks and forests, combined with state- and local-level foraging restrictions, formed a complex legal landscape for would-be foragers. These restrictions were often subverted or overtly challenged, as the next section will explore.

Conflicts between mushroom pickers and National Parks and Forests officials

National parks and forests, with their patchy landscapes of foraging restrictions, were sites of conflict between those who enforced these restrictions and those who sought to subvert them. Anthropologist Anna Tsing (2015) documented such conflicts that she observed between 1993 and 1998 in Oregon, where people from mushroom-picking communities sometimes came into contact with law enforcement officials. The communities Tsing (2015) observed were made up largely of Southeast Asian refugees, along with some white and Latinx people, who picked matsutake mushrooms, a culinary delicacy that flourishes in forests disturbed by human intervention (Tsing 2015).

Racially-charged conflict emerged between the Forest Service and the mushroom pickers. According to Tsing (2015), in the early 1990s, Southeast Asian mushroom pickers, like other visitors to

the national forests, could camp wherever they wanted. However, according to Tsing (2015), after a group of white people claimed that the Southeast Asian people were leaving behind too much litter, the Forest Service moved the latter group to an access road and then to a gridded camping area, which were both more easily accessible to law enforcement officials and emergency vehicles. Despite the emergency vehicles' increased access to the mushroom pickers' campground area, forest regulations directed solely at the pickers required a police escort for emergency vehicles (Tsing 2015). Tsing (2015) documented one case in which this led to a prolonged delay in ambulance response to a critically injured picker, who died before the ambulance arrived. Tsing (2015) also observed that the Southeast Asian mushroom pickers tended to be confronted by police in the parks more often than other racial groups.

The pickers' actions in the national parks and forests were influenced by their financial constraints, as well as intermittent opportunities to capitalize on matsutake. Restrictions pertaining to foraging activities, including requirements to obtain mushroom picking permits, pay the associated permit fee, and abide by harvesting limits, were variously obeyed or ignored to varying degrees, depending on the circumstances (Tsing 2015). Tsing notes the extreme difficulty mushroom pickers experienced determining whether they were in an approved picking zone, as boundary markers were often absent. At the same time, fines for illegally picking mushrooms could be steep: in a national park, the fine was \$2,000 for a first offense (Tsing 2015). However, for the pickers, it could sometimes be financially advantageous to take the risk of getting caught, as the prices for mushrooms could on certain days be so high that they could earn more from harvesting and selling matsutake than they might be fined (Tsing 2015). Tsing's ethnographic research helps illustrate the ways in which the infrastructures of capitalism and settler colonialism—in the form of economic markets and foraging regulations on

federal lands—configured the environment and influenced the relationships between mushroom pickers and the land.

Conclusion

Many of the digital technologies networked foragers use today are the products of high-tech companies with geographic origins in Silicon Valley and/or ideological origins in the Californian Ideology. This ideology has manifested itself in conditions of global technoprecarity, which affects both the public and private sector, and disproportionately harms people of color, black people, Indigenous people, women, and peoples in the Global South. The Californian Ideology, underpinned by white supremacist and free-market capitalist logics, reinforces its own legitimacy through teleological narratives of “growth” and “efficiency” and sustains technoprecarious conditions for people around the world.

Networked foragers today act within particular technological and legal infrastructures. These infrastructures have historically denied or suppressed the land rights, foraging rights, and well-being of black and African people, Indigenous peoples, poor white people, and people of color. At the same time, these infrastructures have sustained the power of affluent white people. The values and relations of white supremacy, settler colonialism, patriarchy, and capitalism form an ecological regime within the U.S. that configures the environment and practices of networked foragers today. From the private property lines you carefully avoid, to the Google Maps route that leads you to a public park—the land is indelibly marked by the desires of whiteness and capital.

Chapter 3

Getting situated: Related literature and research methods

In order to further demonstrate the “situatedness” of this research project (Haraway 1988), in this chapter I provide a brief literature review and overview of my methodological approach to address the central question of this thesis, which is: *How do people use digital media to learn about and practice networked foraging, and how do these practices differentially value and affect human and more-than-human bodies and landscapes?* As discussed in the previous chapter, networked foragers act within technological and legal infrastructures that have disproportionately harmed black people, Indigenous peoples, poor white people, and people of color. The values and relations of white supremacy, settler colonialism, patriarchy, and capitalism configure the environment and practices of networked foragers today. In this chapter, I turn from an exploration of the high-tech industry, private property system, and federal land ownership to briefly examine some of the ways in which racism, colonialism, and capitalism operate in cyberspace. Next, I provide an overview of the methodological approaches that I use in this thesis. To contextualize my methodology, I discuss the results of two thematic analyses I conducted using foraging-related posts on Instagram and Facebook. After explaining how I built datasets of posts from these two social media platforms, I describe the analytical approach I used to identify recurrent themes, and I explain how the results of these analyses informed the questions I asked my interviewees in subsequent semi-structured interviews. Finally, I summarize the research methods and approach that I used to identify, recruit, and interview my interlocutors from September through November 2021. I end the chapter by describing the process by which I offered my interviewees the opportunity to revise

their quotes from our interviews, as well as to share feedback or comments on a preliminary summary of the thesis, as well as the final version of the thesis. Overall, this chapter sets the stage for discussion of the results of my interviews in subsequent chapters.

Capitalism, colonialism, and whiteness in the digital landscape

As previously discussed in the Introduction, John Durham Peters' framework of infrastructural media views media as "enabling environments" that nurture many different life forms, including other media (JDP 2016, 3). JDP considers the environment itself as infrastructural media, as environments are "our infrastructures of being, the habitats and materials through which we act and are" (2016, 15). In this vein, the World Wide Web itself may be considered an environment. In recent years scholars have pointed out the ways in which capitalist and colonial logics have spatialized and commodified the web. For example, a number of scholars have explored the way in which the web evolved from a DARPA-funded project to become a primarily commercial space filled with paywalls and clickable ads (e.g., Greenstein 2017; Leiner et al. 2009; Frischmann 2001). Zook and Graham (2007) have discussed the ways in which Google's search engine and ranking system reorders the digital "commons" through its creation of "core" and "peripheral" spaces. More recently, Thatcher, O'Sullivan, and Mahmoudi (2016) have critiqued the ways in which private corporations that amass, buy, and sell big data participate in what they term "data colonialism" which commodifies and capitalizes on cyberspace.

Other scholars have noted the ways in which whiteness retains and reinforces its power in cyberspace. For example, Kanjere (2019) discusses the ways in which internet users mobilize discursive strategies of white innocence, color-blindness, and vulnerability in order to protect white privilege

online. Nakayama (2017) has noted the ways in which whiteness repositions itself to retain power on social media platforms through its use of interactive digital space, anonymity, and other digital affordances. Writing about the academy itself, Daniels (2013) brings attention to the color-blindness of white media researchers who fail to recognize the ways in which whiteness operates online.

Against this backdrop, JDP's framework of infrastructural media resonates powerfully with recent scholarship on "distributed blackness" by the interdisciplinary scholar André Brock (2020). JDP (2016) notes that sea-related metaphors are pervasive in cyberspace (e.g., we "surf" the web, resist "phishing" attempts, "log on" to a website), and connects this phenomenon with his observations of the Google campus in Mountain View, California (part of Silicon Valley), which features "large white statues of maritime explorers," suggesting the company itself as the "captain of a ship" (2016, 107). Raising the stakes of this provocative image, Brock (2020, 78, emphasis in original) writes about the ways in which web browsers shape the experience of using the internet, which may be analogous to the way in which humans navigate the sea on ships:

The browser—a banal technology if ever there was one given its invisibility as a mediator of information—structures the internet as an individual endeavor. That this individuality maps onto the accessibility of and access to content that is amenable to the information pleasures and needs of whiteness is not accidental. The internet's command and separation of space, time, and communication is the latest iteration of modernity's imputation of the *transcendence* of white racial identity, particularly with respect to enterprise, rationality, and command of the earth itself.

JDP's and Brock's work, along with other scholarly work discussed above, points to the ways in which large corporations like Google, Apple, and Meta are building digital tools and applications with which to navigate cyberspace in accordance with the motivations and desires of capitalism, colonialism, whiteness, and other dominant forces. Inspired by this theoretical framework, some of the questions

that remained with me throughout this project include: How might using the Google Chrome browser, Apple iPhone, and/or Facebook Messenger app delimit the experiences and interactions of networked foragers with humans and the more-than-human world? What other ways of perceiving and interacting do these technologies ignore, erase, or preclude? In subsequent chapters, I will begin to answer these questions. First, however, I take a bird's eye view of the networked foraging landscape.

Getting the “lay of the land”

At the beginning of this thesis project, one of my early questions was, *What kinds of foraging-related content do people post and talk about online?* To find out, I went on Instagram and Facebook to learn more about the digital landscape that networked foragers navigate and build through web browsing, posting digital content, and interacting online. To be clear, there are millions of foraging-related posts across a variety of social media platforms, including TikTok, YouTube, FallingFruit, Instagram, Facebook, Twitter, and Reddit. Due to time constraints, I decided to build a database of posts from just two popular social media apps: Instagram and Facebook. The thematic analyses I performed on these data are not intended to provide a comprehensive picture of all foraging-related posts online. Instead, my aim was to get a sense of some of the prominent themes that characterize public foraging-related content published on these two platforms.

To perform these two thematic analyses, I separately collected and analyzed two datasets of posts from Instagram and Facebook. The way in which I constructed each of these datasets was distinct. In mid-August 2021, I collected 400 public Instagram posts by searching for the most recent (at that time) public posts tagged “#foraging”. This sample size allowed for a confidence interval of approximately

95%. I used the hashtag #foraging as a filtering mechanism for selecting posts because English is the only language in which I am fluent and it is, according to the U.S. Census Bureau (2020), the most commonly-spoken language in the United States. Furthermore, the gerund form of the verb “to forage” was, by far, the most popular hashtag of any variation on the verb, with just over 1.2 million posts. The next-most-popular English-language foraging-related hashtags appeared to be #forage at approximately 515,000 posts, #foraged at 196,000 posts, and #forager at 193,000 posts, as of mid-August 2021. These posts were not limited to users in the United States, since I did not have the ability to filter posts by geographic region. Instead, the posts I collected were from English-language speakers and writers from around the world.

In order to build a dataset from posts on Facebook, I first identified a large public foraging group (over 10,000 members) that was geographically proximate to me, which would allow me to eventually meet in person with a couple of the group members for the purposes of participant-observation. I also chose a group that seemed to be relatively active online, with members posting and commenting continuously throughout the day. When I applied to join the group, I informed the moderators that I was a researcher at MIT interested in studying group members’ interactions and behaviors, and they approved my request to join. To collect the Facebook posts from this group, in early September 2021, I selected the 200 most recent posts that appeared on the group’s “Discussion” page. Because I did not have access to the group’s administrative dashboard to determine the total number of posts on the group’s page, I arbitrarily decided that 200 posts would be my initial sample. After completing my review of the 200 posts, I found that this number was likely sufficient, as many of the posts demonstrated similar themes. I effectively reached “saturation,” considering that my analysis aimed not

at a nuanced analysis but rather a more surface-level analysis of the types of foraging content that people post online (Braun, Clarke, Hayfield, Terry 2019).

Although each dataset was constructed with a distinct method, I used the same form of thematic analysis (TA) on both datasets. TA is an umbrella term for many analytical approaches that aim to identify themes in qualitative data, and scholars generally see two main approaches to identifying themes: “domain summaries versus shared meaning-based patterns” (Braun, Clarke, Hayfield, Terry 2019). Domain summaries tend to be summaries of qualitative data at the “surface” or semantic level, while meaning-based patterns look for both explicit and implicit meanings in qualitative data (Braun, Clarke, Hayfield, Terry 2019). Because I was constrained by time and already planned to explore deeper levels of meaning in semi-structured interviews, I followed the former approach for these thematic analyses. Using this approach, I sought to identify themes in my datasets that could help me understand the subjects and purposes of foraging-related content posted online.⁵ Additionally, for each of these groups of posts from Instagram and Facebook, I examined all of the comments (if any) of a randomly selected sample of 10% of the posts.

There were prominent, distinct themes that emerged among the posts I examined across both the Instagram and Facebook datasets. Below, I explore each of these themes and how these themes emerged in similar or different ways across Facebook and Instagram. Please note, many of the posts represented multiple themes rather than just one. For example, a post might demonstrate the “foray

⁵ This kind of analysis may be considered problematic by some decolonial scholars (e.g., Simonds and Christopher 2013), as the analytic process involves separating people from the stories and experiences they share.

experience” and “harvest” themes by including photos from a foraging journey, as well as an image of a basket of berries the user picked.

Foray experience. There many posts on Instagram and Facebook that depicted people on foraging journeys, or scenes of the landscape from their forays. The captions of images depicting foray experiences often referred to enjoying the company of family, friends, or pets while seeking out mushrooms, herbs, or other lifeforms. Some of the posts recalled memorable encounters with other species— such as arriving at a mushroom patch only to discover that slugs have already claimed many of the mushrooms, watching a troop of baboons foraging flowers from below on a mountain ridge, or lamenting the diminished availability of plums because parakeets had been feasting on them. These multispecies encounters offered compelling narratives of ecological relations that become evident during the practice of foraging.

Species identification. Another recurrent theme centered on species identification. Such posts often either stated or guessed the identity of a particular species the user had encountered (often accompanied by the scientific Latin name, such as *Cantharellus cinnabarinus*, or “Cinnabar-red chanterelle”). On the other hand, sometimes these posts requested identification about the species from viewers based on the posted image or video and sometimes other descriptive details in the captions. Species identification posts often generated more discussion on the Facebook group than on Instagram, perhaps because the Facebook group members had joined together out of an interest in learning (and/or teaching others) how to forage.

Toxicity / physical properties. Toxicity was another important theme, with much discussion around whether certain species were edible, not just in themselves, but as a result of close contact with

other species, like poison ivy, or due to their proximity to roadways or dog walking paths. Some users shared or requested information about the edibility of a particular species, likely hoping to avoid the wide-ranging and sometimes lethal side effects of consuming plants or mushrooms with certain properties. Others discussed certain properties of the foraged species, such as the presence of antioxidants in mushrooms, or the presence of anti-inflammatory compounds in an herb. Similar to species identification posts, toxicity-related posts often generated more discussion on the Facebook group than on Instagram.

Harvest. Some posts depicted a harvest, such as a hand holding foraged berries or a basket of mushrooms. The captions of these posts often communicated pride or pleasure in the harvest, sometimes emphasizing the beauty/aesthetic value, weight or volume, or free (costing no money) nature of the items foraged.

Seasonality. Seasonality was another common theme, with many users noting that a particular species (or multiple) was going in or out of season, often accompanied by at least one photo or video of the relevant species. These posts often encouraged others to go out and forage for the species mentioned.

Crafting. Posts that followed the crafting theme included multimedia representations of different craft projects undertaken with foraged materials, such as making wreaths, herbal remedies, jewelry, terrariums, alcohol, and prepared foods such as jam and pasta. Some of these posts discussed or demonstrated in detail the crafting process so that viewers could get a sense of how to practice the craft themselves.

Ad / promotion. There were many posts using the #foraging hashtag that were ads or promotions for certain products or services. Some of these posts were advertisements for psilocybin

(magic mushroom) edibles, public foraging tours, foraging gear (e.g., basketry, bags, knives), artworks, YouTube channel videos, fine dining restaurants, and foraging books. Others were promotions for local non-profit organizations that offer foraging-related information and services, such as workshops on preparing herbal remedies or grants for community food-related initiatives.

Gift / gratitude. Another recurrent theme was one of gratitude or receiving gifts, whether directly from the environment or indirectly from the environment through friends or family members who had gone foraging and offered foraged berries, mushrooms, or other items as a gift.

Conversation / reflection. Some posts invited others to chime in on a particular topic, or shared personal reflections relating to foraging. For example, one user posted a video that described how moved he was by a friend who had recently cried while eating mushrooms that were the same type she had once picked with her late father. Other posts shared ideas on the relationship between racial justice and the environment, while others discussed changes in the way they thought about the environment, such as redefining the concept of a “weed,” or discussing what it means to “belong to the land,” or musing about the relationship between dreams, imagination, and reality. Some posts were more playful, such as by inviting viewers to “spot” mushrooms camouflaged in the landscape pictured, or quizzing them on multiple species pictured.

The results of these thematic analyses informed the development of questions for my interviewees. Because species identification was such a persistent theme on Facebook and Instagram, I asked my interviewees about their process for learning about the environment, including which resources they referred to in the process. Noticing the significance of toxicity as a subject of conversation across Instagram and Facebook, I asked questions of my interviewees in regard to how they decided

whether to harvest and consume something they had foraged. The crafting, ad/promotion, and gift /gratitude themes inspired me to ask how people used the items they had foraged in their lives. The thematic analyses offered a preliminary sense of some of the topics or themes that were relevant to networked foragers. However, the semi-structured interviews, as discussed in the next section, allowed me to delve into networked foragers' deeper meanings, values, and internal conflicts that were not apparent on my Instagram or Facebook feeds.

Research methods and approach

In order to get a sense of the practices, norms, and values in networked foraging communities, I used an ethnographic approach which allowed me to collect and synthesize data from interviews, participant observation, and field research (Emerson, Fretz, and Shaw 2011). Between September and November 2021, I interviewed remotely over Zoom six members of a public Facebook foraging group based in the northeastern United States. During this time, I also interviewed over Zoom three Instagram users who regularly publish foraging-related content on their Instagram profiles and have relatively large audiences (between 10,000 and 70,000 followers, as of the time of this writing). The interviews were generally an hour in length, with some stretching up to a half hour longer. I also went on two participant-observation foraging journeys with a couple of the people I interviewed, with one journey lasting one hour and another lasting about two hours.

I deliberately sought out an intersectional group of interviewees representing a range of genders, races, ethnicities, ages, geographic areas within the U.S., and levels of foraging experience. Two of my interviewees were in their 20s, four were in their 30s, and three were in their 40s. Three individuals

identified as female, one as gender fluid, one as gender non-binary, and five as male. One individual identified as black with Borinquen ancestry, one identified as black and mixed race with Hispanic, Latinx, or Spanish ancestry, and seven identified as white. On Facebook, I selected individuals with a range of experience in the Facebook foraging group, some having joined within the past few months, while others having joined within the past couple of years or even earlier. On Instagram, I selected individuals with over 10,000 followers based on the assumption that these people considered themselves (and were perceived by their followers) as public figures. I used pseudonyms to allow my research participants to feel more comfortable reflecting on their experiences and feelings about group-based social dynamics and tech platforms.

I had a difficult time identifying and recruiting black people, Indigenous people, and people of color for this project. I speculate that some of the reasons for this could be (1) lower overall participation of people of these demographic groups in the public Facebook foraging group that I selected, and/or in networked foraging communities overall, (2) black people, Indigenous people, and people of color may have had less leisure time to devote to participating in an unpaid study due to systemic racism and socioeconomic and health inequities, or (3) lack of interest or trust in working with me, a white researcher, due to the intergenerational and contemporary traumas of white supremacy and settler colonialism. The absence of these people from this research study suggests that networked foraging communities (and research projects undertaken by white people) may in many cases fail to resonate with or be inclusive/accommodative of historically marginalized peoples. People with bodies that are under greater threat and/or subject to greater skepticism and critique may not desire to participate (or feel comfortable participating) in such groups or projects.

I used a semi-structured approach to the interviews I conducted, which varied by social media platform (Emerson, Fretz, and Shaw 2011). The interviews included both a common set of questions, as well as a set of questions specific to the use of Facebook or Instagram, depending on whether the interviewee was an Instagram user with over 10,000 followers or a member of the Facebook foraging group I had selected. In addition to the questions I mentioned in the previous section on the thematic analyses, I also asked questions of the Instagram users that would help me understand their motivations for posting on the platform, which factors influenced what and how they decided to post to Instagram, and what they hoped their audiences learned or took away from their profiles. For members of the Facebook group, I asked questions regarding the factors that led them to join the group, what experiences as a group member had been most or least helpful, and whether and how they used other digital media to discuss or learn about foraging.

After collecting my interview and participant-observation data, I went through and coded the transcripts and handwritten notes to identify key themes in the way people were describing their experiences and the processes they used to learn about foraging (Emerson, Fretz, and Shaw 2011). From these codes, I wrote initial memos that helped me identify patterns and key themes arising from the data (Emerson, Fretz, and Shaw 2011). After I had completed the first full draft of my thesis, I shared with each of my interviewees a summary of my analysis, along with the pseudonym and quotes I had selected to include in the thesis. I offered them an opportunity to revise their pseudonym and quotes, if they wanted, and I asked them for feedback on my analysis or additional thoughts (Boellstorff et al. 2012). I heard back from eight of the nine people I interviewed, and those eight approved of my analysis and the quotes, with several minor changes to wording and one change of pseudonym. One individual (Roy)

provided feedback correcting a detail about how mushrooms develop, and I edited the draft accordingly. After I completed the final draft of the thesis, I sent the document to my interviewees for a final review. I offered them the opportunity to share critical feedback/comments on the thesis as a whole (which I would have included in the appendix) but none of them took me up on the offer. I was surprised not to receive critical feedback, and skeptical that the eight people who got back to me fully approved of my analysis and arguments. I wondered whether my gender, race, or affiliation with an elite research institution may have affected their willingness to critically respond to this work.

In the course of conducting this thesis project, I worked to recognize and question colonial, racist, and capitalist influences on my usual academic research and writing methods. I found many wise teachers within the field of Indigenous studies, science and technology studies (STS), and postcolonial studies (e.g., TallBear 2014; Tuck and Yang 2014; Kolopenuk 2020; Precarity Lab 2020; Liboiron 2021). I was inspired, in particular, by the way in which the Precarity Lab (2020, 13) “live[s] the contradictions” of doing postcolonial academic work while on unceded First Nations land in Banff, Canada and with funding from the natural resource extraction industry. Similarly, this thesis project was funded by MIT, which was built on land that is the traditional unceded territory of the Wampanoag Nation. Throughout the research process, I used an Apple iPhone and Macbook Pro, Google Workspace applications, Meta applications, and Amazon services. At the same time that I was working to critique high-tech corporations and legacy infrastructures of settler colonialism, white supremacy, and capitalism, I was complicit in sustaining their power.

Conclusion

As discussed in the previous chapter, racism, colonialism, and capitalism form an ecological regime that structures the “natural” environment in particular ways. This chapter explores how dominant forces like these structure digital environments through the design and development of web-based applications, browsers, and commercial websites with paywalls. With an understanding of some of the ways in which these systems shape the web, I undertook two thematic analyses of Facebook and Instagram posts, respectively. These thematic analyses enabled me to get a sense of the digital landscape that networked foragers navigate and build online. I found that the following themes characterized much of the foraging-related digital content on these platforms: foray experience, species identification, toxicity / physical properties, harvest, seasonality, crafting, ad/promotion, gift/gratitude, and conversation/reflection. These results informed the questions I asked my interviewees in subsequent semi-structured interviews. The semi-structured interviews with my nine interviewees, as I will discuss in the following chapters, allowed me to delve into networked foragers’ deeper meanings, values, and internal conflicts associated with some of these themes. Finally, at the same time that I was working to understand the ways in which capitalism, colonialism, and racism operated among networked foragers, I was also grappling with the ways in which these forces shaped this research project. In particular, the fact that I am a white, female researcher at an elite university may have affected who was willing to participate in this project, as well as what participants were willing to share with me.

{ Interlude 2 }

Cambridge, Mass. — It's September 23, 2021, a Thursday, and “trash day” on my street. I was wheeling the newly-empty recycling bin from the street to my backyard when I noticed three pale mushrooms just barely peeking out of the damp earth in my yard. I had learned on the Facebook foraging group page that in New England, one could expect a flush of mushrooms in the days following rainfall, so I had



Figure 4. The mystery mushroom.

been keeping an eye out for tiny growths around my neighborhood after a recent storm. Crouching down, I took a closer look at the three mushrooms in my yard.

These were about two inches tall, with white stalks and speckled caps in beiges and yellows. The species looked familiar. Excited, I prodded one of the mushrooms to get a sense of its texture and sturdiness. The mushroom was fleshy and cool to the touch, and firmly seated in its spot.

Without thinking, I gently grasped the mushroom's cap and pulled, and the mushroom came up relatively easily, still grasping a clump of dirt at its base. Only after I had pulled

up the mushroom did I remember reading online that you're supposed to harvest mushrooms by slicing them off at their base, which leaves the mycelium intact. Feeling guilty, I resolved to remember that the next time I went foraging.

With my iPhone, I snapped a quick photo of the mushroom laying on the ground. Recently, there had been photos of similar mushrooms posted to the Facebook foraging page, which had been

identified by members of the group as *Amanita rubescens*. Wait, I thought—*Amanita*. I remembered hearing that there were mushrooms in that genus that could be deadly to humans. Did that mean there might now be toxic substances on my fingers? After gently placing the mushroom back on the ground next to the others, I hurried inside and washed my hands. I tore off a sheet from the roll of paper towels in the kitchen and went back outside. Crouching down again in front of the mushroom, I picked it up with the paper towel, brought it inside, and laid it down on my kitchen table.

I did a quick Google Image search of “*Amanita rubescens*” to try to figure out whether the mushroom was a member of that species. A wide range of images appeared in the search results, and the more images I saw, the less certain I was of the species identification. The coloring, shape, and texture of the mushrooms varied so much, I couldn’t easily recognize many of their commonalities, or if the pictures were even accurately identified as *Amanita rubescens*.



Figure 5. Mushrooms tagged as *Amanita rubescens*, from First Nature, iNaturalist, and Flickr.

According to First Nature’s website, the *Amanita rubescens* is also referred to as the “Blusher” because, when its flesh is damaged or cut, the flesh turns from white to a pinkish red. I took a paring knife out,

sliced the mushroom down the center, and waited to see if there was any change in the mushroom's color. The flesh seemed to remain a pale beige. Looking farther down the website's description, First Nature noted that Blushers don't have a distinctive smell unless they become infested by maggots, which will make them smell "quite unpleasant." I sniffed the mushroom carefully, and I could not make out a distinct aroma. It just smelled vaguely earthy. I wasn't sure what to make of First Nature's guidance, so I pulled out my iPhone and opened the Seek app, which is made by iNaturalist. Selecting my photo of the mushroom from within the app, I asked Seek to identify the mushroom. The app assessed the image, and then displayed this message: "We believe this is a member of the genus Amanita Mushrooms. But Seek couldn't identify the exact species." Sighing, I exited out of the Seek app and opened the Shroomify app. It guided me through a series of questions about the mushroom's "type" (gills, pores, teeth, morel/saddle, etc.), cap color, cap shape, and cap width, and gill attachment. I had to try multiple search filters, including both "yellow" and "white" for cap color because my mushroom seemed to fit both categories. I also tested several different gill attachment options because I wasn't sure which one matched my mushroom.

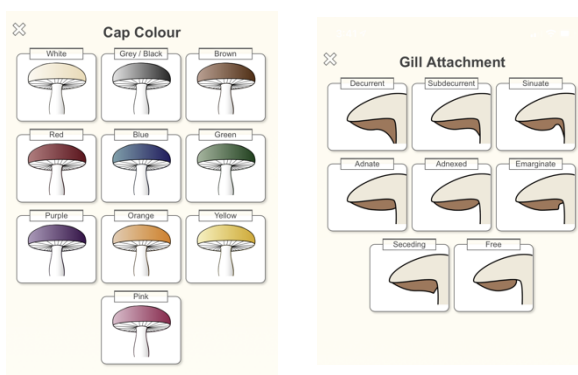


Figure 6. A couple of screenshots from the Shroomify app "Identify Fungi" guide.

None of Shroomify's results seemed like a likely match for the mushroom in front of me. I noticed that some of the mushrooms listed in the app's results page were labeled "edible and good," or "choice," while others were marked as "unpalatable," "caution," "inedible," or "deadly." How were mushrooms categorized along these lines, and who did the categorizing? Surely some "unpalatable" mushrooms must be tasty to someone on earth, while ingesting "edible and good" mushrooms might lead some to have an allergic reaction.

After looking through the Google Images, Seek app, and Shroomify app, I felt confident that I would not be able to identify this mushroom species without help from another human, and possibly without watching the mushroom continue to develop and mature. I composted the mushroom I had brought inside, but I kept a watchful eye on the remaining two in my front yard. Over the next day or two, they seemed to grow slightly larger. However, they disappeared shortly thereafter. I wondered, if another creature had eaten them, did the creature survive?

Chapter 4

Orienting and identifying: “Skilled vision” and Western technoscience

From zooming out on a Google Map until they find a nearby “nice, big, green patch,” to making a spore print with a sheet of paper, networked foragers use a variety of technologies and techniques to orient themselves within their local environment and learn to identify new species. Among my interlocutors, reliance on digital technologies is widespread, irrespective of one’s degree of foraging expertise. For these individuals, digital technologies are integral to the process of developing and teaching multi-sensory “skilled vision,” (Grasseni 2004) the interpretive lens through which networked foragers perceive and make sense of the world. For these networked foragers, this type of skilled vision represents a new and highly attuned form of environmental awareness that is attentive to the sight, smell, sound, taste, texture, and time scales of more-than-human forms of life. For members of the Facebook foraging group whom I interviewed, I found that this type of skilled vision is largely produced through the guidance of (1) web-based applications such as Seek by iNaturalist and Google Maps and (2) Facebook foraging “experts,” who may be disproportionately white and/or affluent people with the time and resources to serve as volunteer “experts” online. By exploring the ways in which the embodied practice of foraging is mediated by digital technologies and Facebook foraging “experts,” I posit that some networked foragers’ perceptions and understanding of the world may be limited by perspectives and classificatory systems with roots in colonialism and primarily coming from a certain privileged demographic group. To explore possible alternative perspectives, I briefly discuss Indigenous traditional ecological knowledge and approaches to relating to the more-than-human world.

Learning your land & getting started foraging

Among the people I interviewed, motivations for foraging varied widely. For some, an interest in foraging emerged out of a growing awareness of—and curiosity about—the local environment. Several people reported going on a hike and noticing colorful mushrooms they couldn't name popping up along the trail, while one person had a child who kept asking questions about the edibility of forest produce, such as, *can you eat acorns?* Some of my interviewees' interest in foraging was motivated by worries about socio-political instability or the possibility of apocalyptic events (in some cases, inspired by the onset of the COVID-19 pandemic), which would make foraging skills vitally important. Many of the people I spoke with had foraged occasionally as children—it was something they did without thinking much about it, whenever they happened upon clusters of wild blackberries or other foods that looked tasty to them. However, all of the people I spoke with seemed to practice foraging today as an intentional, disciplined activity that required the development of particular skills.

Among my interlocutors, a key first step in the process of becoming a forager involved becoming acquainted with one's local environment and assembling resources that provided foraging-related information. Adam (42 years old, white, male, he/him), who is a member of the local Facebook foraging group I studied, was inspired to start foraging during the pandemic when he realized that he lacked certain “survival” skills that would allow him to take care of his family, if necessary. Adam referred to a variety of resources as he learned more about the land around him, including field guides, websites, foraging apps, Facebook groups, survival reality TV shows (e.g. “Alone”), and a YouTube channel published by Adam Haritan called “Learn Your Land.” Adam explained that, for him, foraging involves building a personal toolkit that can offer a range of information: “There's not one tool, there can't be

one tool—not a guidebook, not a person, not an app, not a website that can say, we have everything. It’s just not possible.” Similarly, the Instagram user Luke (32 years old, white, male, he/him) also described referring to a variety of media for information about foraging, including field guides, online chat forums, Instagram, and Facebook groups. Luke began to seriously pursue foraging during his last semester in college, when he began taking Ojibwe language and culture classes to connect with his heritage. Others, including the Instagram user James (27, black and Borinquen, male, he/him), attended formal educational programs to learn about mycology and permaculture after he became anxious about environmental contamination and societal collapse while on psychoactive drugs. Still others, such as Natalie (37, white, female, she/her), went on a tour with an experienced forager to learn more about the practice, and when the pandemic hit, she found herself with ample time in which to walk around her neighborhood and learn more about the local plants.

Although all of my interviewees referred to non-digital media in the process of foraging, digital media played a uniquely powerful role for all of the people I spoke with, irrespective of their foraging background. Digital technologies offered instantaneous, accessible information about many different subjects and enabled speedy communication across large distances. This finding is hardly surprising and certainly not generalizable to the broader population of foragers in the U.S., as I selected my interviewees on the basis of their use of the popular social media platforms Facebook or Instagram. This point is worth noting, however, only insofar as it suggests the extent to which digital media is part of the fabric of life and integral to foraging practices and communications among the networked foragers I interviewed.

Two of the social media platforms owned by Meta Platforms, Inc.—Facebook and Instagram,

but especially the former—serve as important resources among my interlocutors. Luke, an Instagram user, said that Facebook was essentially “Grand Central Station for the mushroom groups,” suggesting that, in his view, it serves as an important hub of activity among people interested in talking and learning more about mushrooms. Luke continued by explaining that on Facebook, “The mushroom foraging groups, the mushroom ID groups, the plant foraging groups, and the plant ID groups are, I’d say, an indispensable resource.” Many of the other people I interviewed emphasized the importance of Facebook groups in learning how to forage, for reasons ranging from access to foraging experts, speed of communication, ability to form affinity groups for specific interests (e.g. Bolete mushrooms), and ability to share videos, photos, and instant private messages, among other features. My interlocutors seemed to appreciate having the ability, too, to hone in on what was relevant to them and filter out what was irrelevant. For example, Bryn (29, white, gender non-binary, they/them), motivated by an interest in learning survival skills, talked about starting a Facebook group for foraging that specifically excluded posts related to the hunting of animals. Teresa (48, black and mixed race, female, she/her), who grew up foraging in the Dominican Republic, told me she is also a member of a group that is dedicated to mushrooms belonging to the *Boletus* genus. Amber (33, white, female, she/her), who foraged as a child in Connecticut and became “all in” on practicing foraging after seeing Alexis Nikole Nelson’s foraging videos, reported belonging to a Facebook foraging group dedicated to her U.S. state. Amber is also a member of a foraging group specific to the broader region in which she lives, as well as a group dedicated to mushrooms that can be found in the state where she lives. In this way, networked foragers are able to build online worlds for themselves with individually-customized selections of foraging content and educational materials.

For some, the internet is their primary source of information about the outdoors. For example, James described to me how Facebook served as the window onto the world through which he learned about the environment, since traveling and spending time outside was too costly. As he put it, dryly, “you go outside and you can spend \$100 just from blinking your eyes.” He described looking at pictures on Facebook as the primary way in which he learned about the environment and how to forage. James’s experience underscores the power that the platform has, for some, in its role as an online social forum and publisher and conduit of environmental media. Additionally, many of the people I spoke with recalled becoming aware of particular species that were “in season” because they showed up “a million times” in their Facebook news feed.

Another popular social media platform owned by Meta is Instagram, which seemed to be used primarily as a source of inspiration and knowledge-building, rather than group-based social interaction. Many people I interviewed indicated that they followed a variety of popular foragers on Instagram, particularly Alexis Nikole Nelson (@BlackForager). Such content inspired many of my interviewees to look out for particular species or experiment with new crafting or cooking techniques that they saw demonstrated online.

In addition to Facebook and Instagram, many of the people I interviewed made extensive use of products owned by Alphabet Inc., including a variety of Google products and services, such as Google Search, Google Images, Google Maps, Google Lens, and YouTube. Amber, a member of the Facebook foraging group, found Google Maps to be useful, in particular, for clearly defining property boundaries. Additionally, Bryn described using Google Maps to locate a “nice, big, green patch” of parkland nearby where they might find a “maximum” level of biodiversity. After browsing the park website, Bryn

eventually walked over to the park to forage.

Other networked foragers emphasized the importance of learning about the local environment and particular species from close, in-person observation over relatively long periods of time. For example, Casey (45, white, male and gender fluid, he/she/they) who has a large following on Instagram and learned about foraging through their grandmother and female writers, described conducting close observation of a “local milkweed population” in the field for several years before beginning to harvest milkweed.⁶ During this time, they took note of the many insects that also fed on or used certain parts of the milkweed in their life cycles. Exasperated with what some of the behaviors they observed of other foragers,

[A lot of people are] just taking pictures of things, they're showing up on Instagram and they're going, “Oh, I can eat this, okay, great I'm gonna eat this.” No, no, no, don't do that, don't rush into it. Look at the thing, study the thing. You know, give it some time.

For Casey, patience and close observation over a long period of time are essential skills for foragers to develop, and not necessarily skills that many new networked foragers think to develop or that, in Casey's experience, are often communicated online.

Based on the ways in which my interviewees described coming to learn about foraging and their local environment, it seemed that the internet was often a dominant source of information. What these networked foragers saw online had significant influence over what they perceived as available and in-season in their area. Additionally, the ways in which the local environment was represented to them through Google Maps and other digital mapping applications shaped to a certain extent the way in

⁶ Milkweed plants can cause serious poisoning of humans. Please see <https://www.poison.org/articles/milkweed-can-cause-serious-poisoning-204>.

which they navigated the outdoors, whether by avoiding property boundaries as shown online, or by seeking out “nice, big, green patches” located nearby. What seemed to be emphasized less often was the kind of close observation over long periods of time that Casey described performing in their own practice. Casey acknowledged that it takes great patience to learn about how other species interact with a plant like milkweed, as well as to monitor a local plant population’s pattern of growth over time. Such an approach calls for spending a great deal of time in person with the species one is interested in foraging, developing a kind of familiarity and knowledge that may not often be possible through the use of digital media like Facebook and Instagram. However, such an approach is not always feasible, as it may be too costly for some to devote so much time, energy, or money to traveling outdoors.

Developing “skilled vision” to identify species

After becoming acquainted with one’s local environment, there seemed to be a consensus among my interlocutors that a key first skill to develop as a forager is to learn how to identify particular species, which involves the ability to name discrete living beings that make up the environment. Among my interlocutors, the Linnaean taxonomic system’s Latin binomial nomenclature seemed to be the undisputed standard for determining the identity of a particular organism (e.g., *Homo sapiens* refers to the modern human genus and species, respectively), with common names used to refer to species in a more colloquial way (e.g., “eastern poison ivy” instead of *Toxicodendron radicans*). Consistent with Griesemer and Star’s (1989) concept of a “boundary object,” Latin binomial nomenclature serves as an organizing infrastructure across different social, cultural, and professional communities at a variety of scales. Among the six individuals I interviewed who belonged to a public Facebook foraging group based

in the northeastern United States, part of the process of developing foraging skills as a member of that group involved learning how to identify a range of species using this system. This finding is consistent with other studies of the essential, taken-for-granted infrastructures of communities of practice (Lave and Wenger 1991; Star 1996; Star and Ruhleder 1996; Star 2010).

The Linnaean taxonomic system, however, has been contested throughout history (e.g., Ereshefsky 2000). In the mid-18th century, it was one of many rival taxonomic systems at a time when colonists and botanists were working to impose order and control over many different territories around the world (Lafuente and Valverde 2005). The Spanish Crown ultimately selected the Linnaean system to become its standard classification system. According to Lafuente and Valverde (2005), the Linnaean system was ideal to the Spanish Empire and its colonies because of its efficiency and disregard for local climate and soil conditions in favor of making claims about the universal and “natural” order of the world. In this way, the Linnaean taxonomic system was an imperial technique for organizing and controlling environments around the world. Although the international taxonomic system has evolved considerably since the mid-18th century, the Linnaean system continues to have lasting influence around the world (Godfray and Knapp 2004).

The process of learning how to identify species according to the Latin binomial nomenclature system is a profoundly embodied practice, and one in which digital technologies play peripheral, though significant roles. There seemed to be a consensus among my interviewees that digital technologies, including smartphone apps that use artificial intelligence, are not yet sophisticated enough to be able to reliably and accurately identify species. Unable to exclusively rely on technological devices in the practice of foraging, these networked foragers shared a common, implicit belief that the task of species

identification involves the training of the mind and the senses. The concept of “skilled vision” as an “embodied, skilled, trained sense” (Grasseni 2004, 41) is a useful one for understanding the way in which beginner foragers learned how to identify particular species. Building on Mauss’s ([1935] 1979) concept of “body technique,” Grasseni proposes that skilled vision involves a multi-sensory, “active search for information from the environment” which can integrate sensory manipulations (2004, 51, 53) such as touching or biting, in the case of foraging. Invoking Ingold’s (1993, 158) concept of “taskscape,” Grasseni argues that through apprenticeship and active practice, one can achieve an “education of attention” and “attunement of the senses” through developing a particular regime of perception (Grasseni 2004, 53). These ideas resonate well with how my interlocutors describe learning how to identify new species when foraging. More advanced peers on Facebook often teach beginners how to notice or manipulate a particular organism’s parts or features as a way of ascertaining its species classification, such as by making a spore print, cutting a mushroom in half, looking at the gills, or smelling it. Even more advanced members of the group who help teach the beginners, like Adam, continue to hone their foraging skills by continually learning from—or being reminded by—other group members. As Adam put it:

Sometimes, you know, other moderators will be like, “Well, did you smell it?” I didn’t, let me go do that. So we remind each other. In a way, the community on Facebook is... self-teaching and self-correcting where it will show you what you’ve done wrong because people will say, “Hey you didn’t consider this.”

Another important component of developing skilled vision as part of this Facebook foraging group involves learning how to properly photograph an organism and ask others what species it might be. One does not simply take a quick snapshot of a plant and upload it to the group to ask what species

it is. Instead, beginners are instructed to take specific kinds of photographs, depending on the organism being photographed. This phenomenon is not limited to just the one Facebook foraging group I studied; it appears that other Facebook foraging groups also codify photo-taking and information-sharing practices for the purpose of identifying species. For example, Bryn observed,

I always take a picture of the thing in its natural environment. I get the surrounding area to show what kind of tree it's on or under, what's the, like, general area—is it field, is it forest, is it swamp, whatever. Then I get up close shots of the thing itself. If it's a plant, you know, get leaves, get stem, get berries, get flowers, whatever. If it's a mushroom, you know, get top, underneath, stalk, what's it growing by, as many things as I can get.

In Bryn's experience, taking a variety of photographs showing the ecological setting and anatomical structure of the species is important for identification purposes. On the other hand, Teresa, who belongs to the same foraging group as Bryn but is also a member of a Facebook foraging group dedicated to mushrooms belonging to the *Boletus* genus, described other types of photos and information that members of that group are expected to provide in order to receive help in identifying a species:

You have to have a picture of the top [of the mushroom], you have to have a picture of the bottom, you have to have a picture of the stem attachment, you have to slice your mushroom and take a picture of the inside, and you have to have a picture of the bruising pattern. And then you have to post where you found it, very specifically. And you have to also record the “time to bruising.”

In the context of learning how to forage using social media, the development of skilled vision entails not just the active search for information from the environment, but also the development of technical skills in photographing other living beings and recording particular properties of those beings. These properties, to be variously photographed, recorded, and shared on Facebook, effectively provide “structures of relevance in the material environment’ that shape perception and allow the sharing of a code of practice” (Grasseni 2004, 43; Goodwin 1994, 610, as cited in Grasseni 2004).

My interlocutors reported that, in general, misidentifications are corrected by “experts” within the Facebook foraging group, who support their claims by pointing out the organism’s properties that correspond to the reference species. Additionally, species identifications may be confirmed by these “experts” who can provide additional sensory means of validating an identification, such as by tasting or biting a mushroom to confirm that its taste and mouthfeel correspond to the reference species.

According to several of my interlocutors, learning how to identify new species helped them see the world anew. Some of them began to see particular species “everywhere,” notice more subtle characteristics of the species, and differentiate more easily between different organisms of the same species. Some of my interlocutors reported developing a kind of “sixth sense” for where they might find particular species, given particular environmental conditions. Along these lines, O’Connor (2005) invokes Bourdieu’s concept of the *habitus* to explain the way in which a novice’s body is restructured around a practice. Through a stream of adjustments, one develops a “system of dispositions” (O’Connor 2005, 132) that can anticipate the rules of a practice. For example, Tsing (2015) describes the way that one might sense the presence of a matsutake mushroom through a combination of being near pine trees, smelling a distinctive aroma, and noticing a slightly raised mound in the dirt. In the context of my project, Natalie noted that she started to change her walking route around her neighborhood to travel near places where she might “find something.” Similarly, on a foraging journey with Adam in western Massachusetts, I watched as he scouted out a remote location along the edge of a reservoir near some trees, thinking that there might be particular mushroom species fruiting there. Likewise, Amber, an experienced gardener and forager, described to me how she predicts where to find blueberries. She said she will “look up lakes in my area that have trails around them that are still wild,” and she will search for

blueberries around the edge of the lake where there is likely to be a lot of sunlight. Amber's blueberry foraging method involves recognizing the relationships between species and particular ecological settings. These examples highlight the ways in which becoming a skilled forager involves training the body and mind to anticipate the distinctive sensory characteristics, patterns of behavior, and vital needs and preferences of other species.

Taken together, these findings indicate that developing skilled vision toward the goal of learning how to identify particular species was an important aspect of group membership among the individuals belonging to the Facebook foraging group that I interviewed. This process of developing skilled vision involved learning key technical skills, like how to properly manipulate a particular organism and record its properties, including by taking certain kinds of photographs of the organism. The apparent culture of this group raised questions, for me, regarding access and representation. When a group such as this one organizes around the development of a relatively narrow set of foraging skills—steeped in the Linnaean binomial nomenclature system and the use of smartphones—in order to apprehend other beings, I wonder what other approaches to foraging and ways of relating to other species are foreclosed. I also wonder what foraging-related ideas and experiences are not represented in the group, since the group's culture may have a bias in favor of including white, affluent people who know about and use Western, colonial science and technologies.

Determining whom to trust

Among the people I interviewed, there were commonalities in the way they described identifying sources of authority and deciding whom to trust online. First, several individuals I interviewed described

developing heuristic techniques for determining when a species identification was right or wrong. These individuals decided that when, say, seven people agreed on a species identification, then most likely that ID was correct. The people I spoke with had a range of thresholds for the number of people from whom they sought consensus.

Some of my interviewees described keeping tabs on other networked foragers in the Facebook group to get a sense of how knowledgeable others were, and whether other people seemed to agree with their ideas or not. Bryn and Amber explained how they perceived people who offered very detailed information about particular species as likely possessing expertise. As Bryn put it, such people might say, “Oh this mushroom has gills that just stay on the cap, and this one has gills that go down the stem, and this one has hairs when it’s young.” In Amber’s experience, a group of experts “gave me one more tip that I hadn’t known before, that the gills [of a chanterelle mushroom] split at the end, or something like that, and so I was like, oh okay, these people know what they’re talking about.” This kind of detailed knowledge about particular species’ visual characteristics through their life cycle can serve as strong signals of expert status, to some networked foragers.

On the other hand, some of the people I spoke with talked about the mixed signals that social media platforms can sometimes send in regard to who has expertise or authority. For example, Luke, an Instagram user with a large following, discussed how some of his followers began to see him as “more knowledgeable” when they noticed how many people followed him. Luke observed,

I’m still the same source of knowledge.... It’s very weird. It’s positive in this case, because I’m going up [in terms of the number of followers], but it could be negative in a case where someone knows a lot, but they don’t have a lot of followers or something, which is totally meaningless.

As Luke notes, the number of followers a networked forager has on a social media platform can shape

perceptions of their authority and expertise. Regardless of what they each know about foraging, someone with a large following can appear to be very knowledgeable, while someone without a large following may appear not to know much at all. Similarly, Roy (39, white, male, he/him) an experienced forager and Facebook group moderator, told me about his techniques for assessing the foraging expertise of others on Facebook. Roy originally became interested in foraging through his interest in geocaching⁷ while he was working to become sober. Roy noted that Facebook “badges” are assigned by members of group administration to convey the expertise or authority of administration members and distinguish them from those with less experience or power within the group. As Roy put it:

If anybody with one of those badges in a mushroom identification group tells you information about a mushroom, that has a lot more weight than just a random person that doesn't have a badge. But that's not saying that the random person that doesn't have a badge doesn't know what they're talking about. Ninety-five percent of the time, they don't know what they're talking about. But it has to do with learning names and learning who people are.

Roy further elaborated on how he assesses the expertise of others, including by watching “who's helping people, who's backing up their claims with evidence and links to papers or websites... to confirm what they're doing.” These points that Luke and Roy make in regard to authority and expertise on social media platforms raise questions regarding who gets to be included as an expert within online foraging spaces. In what ways might the process of building power within online foraging spaces be differentially accessible across different demographic groups? In other words, might the leadership of foraging groups on Facebook tend to favor people who are white, affluent, and who know about and use Western science and technologies? Such individuals may be more likely to have the leisure time and skills to build an

⁷ Geocaching involves using GPS to store away and locate hidden caches around the world.

“authoritative” online persona and volunteer one’s expertise and time without compensation.

People who are perceived as authority figures within digital foraging spaces can have an outsized influence over others, sometimes in ways that they do not foresee. Miscommunications can arise when people use information about foraging that they find online in ways that the people who posted them did not intend. For example, Casey, another Instagram user with a large following, described how their Instagram posts, which were meant to convey their foraging experiences in a diaristic way, were instead sometimes used to ID species instead. Casey disapproved of the use of their photographs in this way, saying, “photographs don’t really tell you the story.”

Some networked foragers with large followings, such as Alexis Nikole Nelson (@BlackForager) and Gabrielle Cerberville (@ChaoticForager), came up again and again in my conversations as part of this research project. For example, when I went foraging with Bryn, they showed me a video from the @BlackForager Instagram profile that featured a Yew shrub growing near Columbus, Ohio (Nelson 2021b). We found many shrubs of the same species in Cambridge, and we decided not to eat any part of it after Nelson warned that much of the plant is toxic to humans. As we experienced, the influence some networked foragers have over others changes how people perceive and interact with other species. It is worth considering who gets to be in such positions of power, and how they gain that authority.

Some additional possibilities for skilled vision

In her book, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*, botanist and enrolled member of Citizen Potawatomi Nation Robin Wall Kimmerer describes

approaching a cluster of leeks to ask whether she may harvest some of them, according to the Indigenous principles of the “Honorable Harvest”:

The dense patch of leeks are among the first to appear in spring, their green so vivid that they signal like a neon sign: PICK ME! I resist the urge to answer their call immediately and instead address the plants the way I’ve been taught: introducing myself in case they’ve forgotten, even though we’ve been meeting like this for years. I explain why I’ve come and ask their permission to harvest, inquiring politely if they would be willing to share (Kimmerer 2020, 170).

Kimmerer describes how she “listens” for the leeks’ consent: she only hears a “yes” when it is obvious to her that the leeks are thriving sufficiently to be harvested, and when the leeks display a “sense of generosity, an open-handed radiance that says *take me*” (Kimmerer 2020, 173). This form of listening requires both an analytic assessment of empirical data, as well as her own intuition, built over many years of coming into close contact with the land (Kimmerer 2020). In this case, Kimmerer (2020) observed that the leeks were not abundant, so she did not harvest them. Being accountable for what you “hear” is a vital part of listening (Kimmerer 2020) and could expand the set of possibilities and moral responsibilities associated with skilled vision.

Relatedly, in his monograph *How Forests Think* (2013) anthropologist Eduardo Kohn, who conducted ethnographic research among the Runa people of the Upper Amazon in Ecuador, writes about what it means for the Runa to live within an “ecology of selves” in which more-than-human forms of life are recognized as people, too. Borrowing the term “soul-blindness” from Cavell (2008, as quoted in Kohn 2013) who used it in the context of humans failing to see other humans as persons, Kohn uses this concept to interrogate his own ethnographic research methods. He writes,

Bodies are multiple and mutable, and the human body is only one of many kinds of bodies that a self might inhabit. What kind of anthropology can emerge through this form of defamiliarizing the human? (Kohn 2013, 125).

To Kohn, being “soul blind,” whether one is a human, jaguar, turtle, or another creature, means not being able to differentiate other animals from the surrounding environment—a blindness that can sometimes mean the difference between life and death. Kohn’s work is part of a broader shift—inflected by posthumanism—within the field of anthropology to decenter the human in consideration of the perspectives and experiences of other species. So-called “multispecies ethnography” makes legible the “biographical and political lives” of other species entangled with human lives (Kirksey and Helmreich 2010).

More recently, Reo and Ogden (2018) have conducted research with Anishnaabe indigenous communities to understand how Anishnaabe conceptualize invasive species in relation to colonialism. They found that Anishnaabe tend to think of plants and other life forms as assembling into “nations” rather than “species,” and as “migratory” rather than “invasive.” Their approach opens up new ways of thinking and talking about the origins and purposes of more-than-human forms of life that step away from colonial-inflected terms like “alien” and “invasive.”

Taken together, recent work by Kimmerer, Tsing, Kohn, Reo, and Ogden light the way toward additional possibilities for seeing and responding to the land. The networked foragers in the Facebook group I observed could develop more relational and responsive capacities in their skilled vision praxis, if they were to consider these perspectives.

Conclusion

The networked foragers I interviewed practiced foraging for a range of purposes, in different ways, and with unique constellations of techniques and technologies. Yet, their experience as members of the

Facebook foraging group I studied suggested that, for them, a common experience of learning to forage using social media involved learning what was available and “in season” locally by noticing what came up a “million” times in their Facebook news feed or by finding nearby parks on Google Maps and visiting them. For all of the people I spoke with, irrespective of their level of foraging experience, digital technologies are integral to the way in which they communicate, share information, and learn about foraging and the environment. This finding is not surprising, and certainly not generalizable, since research participants were selected on the basis of using Facebook and Instagram for foraging purposes. However, this finding is useful insofar as it suggests that, for the networked foragers with whom I spoke, the use of digital technologies remains relevant even after developing familiarity with the practice of foraging in their local environments.

For my interviewees who belonged to the Facebook foraging group, developing foraging skills involves cultivating skilled vision by means of learning particular technical skills, such as how to properly manipulate an organism and record its properties, including by taking digital photographs of the organism in specific ways. Cultivating skilled vision in this Facebook group also involves identifying life forms in the landscape and communicating with other networked foragers using Latin binomial nomenclature. The ability to effectively use digital technologies and binomial nomenclature, ask informed questions, and develop online personas, may be central to gaining status within this community.

There are many alternate ways of perceiving and interacting with the environment that do not seem to be represented within this Facebook group. The work of Indigenous, feminist, and multispecies studies scholars demonstrates other possibilities. These possibilities include developing skilled vision

that recognizes the ecology of selves within the more-than-human world and strives to interpret the well-being and needs of other life forms.

Chapter 5

Harvesting and consuming: The biopolitics and ethics of foraging

The scenario is a timeless one, and may seem unremarkable: a human spots a mushroom nestled against a tree, plucks it from the earth, and later cooks and eats it. However, underlying this simple narrative are consequential power dynamics between the consumer and the consumed, with a range of social, biological, and political implications. One living being eating another enacts particular forms of power—the power to claim and consume another form of life. At the same time, the consumer is physiologically transformed by the one being consumed, sometimes in ways that fail to support the consumer’s flourishing and can even have life-threatening consequences.

Using Heather Paxson’s (2008) framework of “microbiopolitics,” which extends Michel Foucault’s (1978) theory of biopolitics, this chapter investigates some of the biopolitical and ethical implications of networked foragers’ practices of harvesting and consuming foraged items. In this chapter, I discuss the ways in which my interviewees described deciding what to harvest on their foraging journeys, with a focus on discussions around “edibility” and “toxicity,” as well as various techniques for evaluating these properties. I also discuss the ways in which networked foragers communicated online about the ethics of foraging. Overall, I found that some networked foragers are using their bodies and foraged foods as biotechnologies with which to intimately connect with the land, develop new relationships, and maintain local ecosystems. I raise concerns in regard to the way in which online interactions regarding the ethics of foraging may, in some cases, foreclose difficult but generative conversations about foraging ethics and the needs of more-than-human forms of life. I argue that

foraging is a practice of world-making and “becoming-with” other forms of life— through foraging, we transform ourselves and our ecological communities (Haraway 2008). Developing methods for “political listening” (Tsing 2015) and nurturing respectful, candid conversation about ethics among foragers is vital to identifying and pursuing common agendas within our ecological communities.

Assessing toxicity

When it comes to determining whether and how to harvest and consume something, questions around a particular species’ “toxicity” or “edibility” were ubiquitous among the people with whom I spoke. In this particular subject area, the use of folklore and maxims was particularly widespread. For example, some individuals I interviewed brought up (in order to discredit) the practice of checking whether a mushroom is poisonous by putting a silver dollar in a cooking pot with the mushrooms and seeing whether the silver dollar turns dark with tarnish. Additionally, certain phrases came up again and again: “Don’t munch on a hunch,” “Every mushroom is edible at least once,” and “There are old mushroom hunters, and bold mushroom hunters, but no old, bold mushroom hunters.” The use of these maxims was not limited to beginners, but instead was common across all levels of experience.

Questions regarding edibility and toxicity were sometimes disparaged in favor of an approach with more emphasis on “learning” and less on eating. As Teresa (48, black and mixed race with Hispanic, Latinx, or Spanish ancestry, female, she/her) put it,

There are some people in some of the groups that... get a little irritated with people just having a singular interest in eating, and you’ll get snarky responses, like, ‘well, every mushroom is edible at least once.’ [*Laughs*] Which is pretty unhelpful, but I think that the reason why they get annoyed is well intentioned. They’re trying to instill that idea to people that if you’re going to do this, you should be learning, which I think is true, and, you know, have a wider interest in

the learning process rather than, you know, wanting to just find a mushroom and narrow it down to, is this edible.

Teresa seemed to sympathize with these individuals, who, in her experience, discouraged learning motivated by the desire to consume in favor of learning for the sake of more disinterested, “intellectual” reasons. This tension that can arise between people interested in edibility and other people policing the kinds of questions that may be asked raises questions regarding power and embodiment. An emphasis on “learning” that precludes consumption suggests a denial of the desiring, hungering body and a valuing of disinterested intellect over carnal relations, vital needs, and ways of learning about and knowing the more-than-human world. A networked foraging community with a culture that discourages consumption as a motivation for learning might fail to welcome networked foragers who rely on foraged foods for daily sustenance or who prefer to learn about the world through their embodied experiences of desire. In Teresa’s case, it is possible that she was unsure of what a learning process that affirmed bodily desires could look like.

Irrespective of the policing of questions around edibility within the Facebook foraging group, all of my interviewees talked about the pleasures of consuming foraged items. Enjoyment of foraged items was enhanced by the cultivation of skilled vision (Grasseni 2004). As the foragers I spoke with became more aware of what a particular species could look like at different stages of the life cycle and in different environments, several of them reported being more selective about what they harvested. For example, Teresa, who has routinely practiced foraging since 2016 as a way of caring for her body, believes that food growing naturally in forests has more nutritional value than food from grocery stores. She told me that early on, she would “try pretty much anything that was edible and that I felt comfortable

trying.” However, since then, she’s become more selective about what she harvests and consumes. She passes over plants and mushrooms that don’t “have a lot of culinary value,” as well as life forms that are too old. As Teresa put it, “At first, I would pick any chicken [chicken-of-the-woods mushroom] that I found... and now I try to just pick what’s young and tender.” For Teresa, *registers of valuing* foraged food include naturalness, nutritional value, and sensual appeal (Heuts and Mol 2013). The development of skilled vision involves learning how to differentiate among a range of qualities of potential sources of food.

The development of skilled vision that differentiates between different valued qualities of foraged food relies on intuition even as it works to educate one’s intuition. For example, on my foraging walk with Adam (42 years old, white, male, he/him), an elderly man and woman approached him, perceiving that he had expertise in foraging mushrooms. The man held in his arms a large maitake (*Grifola frondosa*, or “hen-of-the-woods”) mushroom wrapped in a picnic blanket, and he asked Adam whether the mushroom was edible. Adam shook his head and apologized, telling the man that it looked too old and probably would not taste very good. After the couple walked away, Adam turned to me and asked rhetorically, with a dry tone, “Did that look tasty to you?” Evidently, beginners must learn what kinds of intuitive knowledge are valid to attend to, or must be rejected. In this case, the maitake mushroom was edible, but likely not “good” for eating, whereas a poisonous *Amanita bisporigera* (“destroying angel”) mushroom might look “good” for eating, but be edible “only once,” as the saying goes. Sorting through what looks tasty versus what is unpalatable, what is safe to eat versus what is poisonous, requires an education of the senses in order to accurately identify edible species, as well as a disciplining of one’s intuition in order to identify foods that are enjoyable to eat.

The edibility and toxicity of an organism, however, is not always black-and-white. Due in part to the contingent nature of edibility and toxicity, perceptions of risk significantly shaped the activities of many of the people with whom I spoke. Paxson's (2008) discussion of post-Pasteurian cultures in the context of cheesemaking offers relevant framing for further exploring issues of species toxicity and edibility in relation to risk. Writing through the lens of Beck's *Risk Society* (1992), Paxson (2008) posits that Pasteurian regulatory practices result in (not-so) "safe" food and germaphobic ("Pasteurian") subjects. On the other hand, "post-Pasteurians" reject this risk discourse in favor of consuming foods that may promote the biodiversity of human gut flora, and support immunity and health (Paxson 2008). Similar to how Paxson's subjects align with one of two camps (the Pasteurians vs. the post-Pasteurians), the people I spoke with also seemed to align with, or stand somewhere in between, one of two groups: those with mycophobia, the fear of mushrooms, and those without.

Many of my interlocutors reported a number of risk-minimizing activities regarding mushrooms, consistent with Beck's (1992) formulation. First, several said that they learned how to forage plants before learning how to forage mushrooms, because they had the perception that mushrooms were, on the whole, riskier—they believed they could be more difficult to identify and were more deadly. Second, several reported teaching others how to forage by selecting for particular species without poisonous "look-alikes." My interviewees seemed to be, on the whole, far less aware of and concerned about environmental toxicants (such as plastics and heavy metals) than naturally-occurring toxins. Consistent with Michelle Murphy's observation, the infrastructure of chemical relations that shape our bodies and environments largely exists within "the realm of the imperceptible" (Murphy 2006, as quoted in Murphy 2017). However, one person I interviewed observed that, like foraged foods,

foods sold in grocery stores also contain environmental toxicants, and may be additionally contaminated at various points throughout the supply chain.

Those of my interlocutors who, in my perception, aligned more with the risk-tolerant, post-Pasteurian camp often described the nuances of toxicity. Some of them explained how toxicity is not necessarily consistent across instances of the same species. As Bryn (29, white, gender non-binary, they/them) observed, “Standard modern medicine is very tightly controlled, but any plant is not tightly controlled and it might have more or less of whatever substance you’re trying to extract from it.” Some of my other interviewees observed that toxicity can be affected by the environmental conditions in which an organism grows, as well as the way in which an organism is prepared to be consumed.

Some of my interlocutors reported varying motivations for experimenting with, encountering (touching, smelling, biting), and consuming new species (e.g., boiling a small amount and eating it) to see how it affected their bodies. For example, Casey (45, white, male and gender fluid, he/she/they) who has a large following on Instagram, described how, in their experience, other foragers generally agreed that milkweed was toxic to humans. After Casey tasted milkweed’s sap and found that it didn’t taste bitter (which, to them, might indicate the presence of toxins), they read a foraging book and scholarly articles about milkweed’s toxicity to humans.⁸ Casey described the importance of respecting folklore while doing the work of what they called “category shifts” to understand how plants (and particular parts of those plants) interact with individual human bodies in ways that folklore may sometimes fail to predict. As Casey put it,

⁸ Milkweed plants can cause serious poisoning of humans. Please see <https://www.poison.org/articles/milkweed-can-cause-serious-poisoning-204>.

You know, there's a lot of great people out there... they're focusing on rethinking, which is really important. And that's what wild food is, it's rethinking. Because it's something that was a part of our tradition—everybody's tradition, not just Native Americans, not just Europeans—everybody's tradition has wild food in it up until fairly recently.

In Casey's perspective, using their body and sensory systems to “rethink” foraged food and conduct the work of “category shifts” around toxicity can revive traditional foodways. Another person I interviewed, Roy (39, white, male, he/him), a mycologist, experienced forager, moderator of the foraging group, and one of my more risk-tolerant interlocutors, talked about how he uses his body as a laboratory in order to advance the field of mycology. Roy described how he tests the edibility of unknown mushrooms:

When I eat a mushroom for the first time, for me, for my body, what I do is I'll cook some up. And I'll eat a little bit... maybe three to four ounces.... I'll check in with myself in about a half hour, an hour, two hours, four hours. Generally after four hours, if I don't feel anything, I'm in the clear.... And then the next day, I'll eat a lot... about a pound and a half of these mushrooms the next day because I want to see if overindulging would have any effect.... If I fare well, then to me, it's edible.

Both Casey and Roy are engaging in the work of “category shifts” by using their body to test new relationships with unfamiliar species. This intimate work opens up new possibilities for relations between humans and other species, although the results of these experiments are anything but universalizable. Such work, however, may be feasible only to those with health insurance and financial resources that would allow them to get help in the event of emergency medical situations.

Taken together, these findings suggest that risk discourse can significantly shape networked foragers' experiences and actions. While many of my interviewees often categorized species as “edible” or “inedible,” “safe,” or “toxic,” in reality these distinctions are in the eye— and the rest of the body— of the beholder. Among my interlocutors, this risk discourse produces political subjects who are afraid or suspicious of foraged foods (reinforcing their dependence on other sources of food), as well as others

who use foraged foods as a way of testing new relationships between their bodies and unfamiliar species. To account for toxicity and edibility concerns, networked foragers' skilled vision involves the disciplining of the senses to accurately identify species, as well as a disciplining of intuition in order to safeguard the well-being of—and give pleasure to—whomever is consuming foraged food.

The biopolitics of eating foraged food

Some networked foragers are consuming foraged foods as a means of developing more intimacy with their local environments. Paxson's (2008) research on consumers of local raw-milk cheese offers a useful point of comparison. Paxson suggests that raw-milk cheese may be considered as a biotechnology for localism or bioregionalism, connecting people more closely to the land on a microbial level. Similarly, local organisms may serve as biotechnologies to networked foragers who wish to feel intimately connected to their hometown through the consumption of foods grown locally. As Casey observed, this process is not straightforward, as some people's bodies may not immediately tolerate large volumes of new foods. As Casey explained:

The biggest advice I can ever give anybody with a new food is... don't eat a ton of it real quick. Eat a little bit, see how your biome reacts.... I think it's good to keep a little care for handling wild foods. Because we're not used to them anymore, we're not used to digesting them. Our gut biome isn't shaped to them, so we should approach them with a little bit of care.

Casey's observation raises questions around the implications of local foraging practices, given the biological, economic, and political consequences of transforming one's body to consume local foods.

Consuming local foraged foods could also be viewed as one method for cultivating greater feelings of reciprocity between humans and other species. In this vein, Bryn described the comfort they get from eating the fruit from a gingko tree so that, as they put it, "we've got the same elements in us."

The psychological, social, and cultural implications underpinning Bryn's statement (and similar statements that other interviewees shared with me) are worth further reflection and study, considering the possibilities that exist for networked foraging to contribute to stronger feelings of connection between humans and the land, and perhaps the cultivation of symbiotic relationships across species.

A different, but related aspect of the biopolitics of eating locally-foraged food concerns local environmental management techniques. Some of my interviewees described eating invasive species or using herbicides as methods of containing or eliminating populations of introduced, undesired species. Amber told me that she posts information to Facebook about getting rid of the invasive species Japanese barberry, which she described as very common in her residential area. Referring to invasive species, Amber said, "If they're edible, it's like, well, instead of using RoundUp [an herbicide], you can eat it." Amber was inspired to eat invasive species after viewing some of Alexis Nikole Nelson's videos in which Nelson advocated for eating invasive species, as Amber put it, "to help deal with climate change and be better stewards of our planet." Relatedly, Casey voiced concern that networked foragers, in their experience, were often not aware of the invasive or native status of the species they encountered. Casey said, "The first thing I always say to people is, it's not about *can* I eat this, it's about *should* I eat this."

In sum, my research suggests that some networked foragers are using foraged food as biotechnologies with which to transform their bodies to be in greater harmony and connection with the local landscape. Through consumption of foraged food, networked foragers, in some cases, develop relationships of care and reciprocity with the land, including by consuming undesired species as a form of environmental management.

Debating the ethics of foraging

This section turns to debates and conflicts that arise in regard to the way in which people harvest and consume the things they forage. Among the people I interviewed, Facebook groups seemed to be an important site of debate and sometimes conflict over the ethics of foraging. One term in particular—“pick shaming”—was widely used among my interlocutors to refer to the practice of publicly shaming people on social media who post descriptions or images of themselves harvesting large volumes of foraged items, harvesting sensitive species, such as *Allium tricoccum* (also called ramps, wild garlic, or wild onion, among other terms), and/or harvesting for purposes that others find to be unjustified. As Bryn observed,

Someone will post [on Facebook] a literal truck bed filled with one type of mushroom, and someone will be, like, in the most quiet little voice ever, “Are you going to eat all that? Is that responsible?” And people shoot it down, being like, ‘You don’t know me, you don’t know my situation.’ So it feels like it’s actually actively difficult to bring up these topics. People seem to react very defensively.

According to Bryn, talking about the ethics of foraging is not something that, in their experience, happens on an everyday, easygoing basis. Instead, these questions and conversations can quickly escalate into heated arguments. As Natalie (37, white, female, she/her) put it, “People sort of argue about the facts, but not in a way that is, like, particularly well factually grounded. And then people do, like, shame each other for, like, ‘Oh, you took too many ramps.’” Additionally, Natalie noted that one person who posted on Facebook a photo of an artistic arrangement of mushrooms was pick shamed not because of the size of their harvest, but because of the use to which the mushrooms were being put. Natalie said, “A lot of people were mad about that. [They said] ‘That was wasteful, and you’re not even eating it.’” As Natalie noted, some networked foragers on Facebook are sensitive to the ways in which they perceive

others are not just harvesting the items they forage, but also how they are consuming them. For some, making art may be a meaningful, life-sustaining creative activity, but for others, it may seem wasteful. On the other hand, other people I spoke with, including Roy, were less concerned about harvesting methods and potential wastefulness. Roy noted, “You’re not disturbing anything by picking mushrooms. You can take them all, you can step on them all, you can kick them all, it doesn’t matter. They’ll just come back stronger next year....”

According to the people I interviewed, it seems to be a relatively common practice within the Facebook foraging group I studied to “block” or remove from the group people who pick shame others, especially when the harvested items are mushrooms. Many of the people I spoke with used the same phrase—“mushrooms are a ‘fruiting’ body”—to make the case that one can pick as many mushrooms as they want without doing harm to the environment. As Amber (33, white, female, she/her) explained:

In the mushroom group [on Facebook], sometimes, people will be, like—this is misinformation that they kind of spread—they’re, like, ‘Oh, don’t pick every mushroom that you see...’ because they think that they’re a limited resource or something, and everybody’s like, ‘No, no, it’s a fruiting body, it’s like picking an apple up off the ground once it’s fallen. You’re not harming the apple tree itself.’

Although some of my interviewees felt that harvesting mushrooms was relatively straightforward, others suggested that harvesting was a more complex task. For example, some people took into account such factors as the underground mycelium that forms a mushroom above ground, as well as whether the mushroom had released its spores yet or not. Bryn described a dilemma they faced in regard to mushroom harvesting:

I took a mushroom once and I just ripped it out of the ground, and when I posted a picture to Facebook later someone commented, ‘Ahhh, no, cut it, so the mycelium stays!’ and I was like, “Oh my God, no,” you know [*laughing*]... and then someone commented with “Whatever, it

doesn't matter, just rip the whole thing out," and I was like, well does it or does it not matter? Bryn said that, in their experience, it's not easy to find information about how to forage ethically. For Bryn, the most helpful guidance comes from popular foraging accounts on social media, like those of Alexis Nikole Nelson (@BlackForager), rather than from within Facebook groups.

As Natalie suggested, these conflicts over foraging ethics seem, on the surface, to be arguments over the "facts," but it seems that such conflicts often emerge when the parties involved are unable to reconcile Western science (which is associated with colonization, capitalism, and human exceptionalism) with anticolonial, feminist moral or spiritual beliefs. For example, Casey shared their perspective on the moral status of foraged organisms:

They have their own right to live, they have their own right to exist, you know? We don't get as sensitive about plants as we do about animals. But they have a purpose here, they're part of our understory, they're part of our ecology, they're not just there for your amusement, you know?

Attending to ethical and epistemological differences within networked foraging communities requires respectful listening. The concept of "political listening," as described by Anna Tsing (2015, 254) offers a glimmer of insight. Inspired by the work of political activist and organizer Beverly Brown, Tsing describes the way in which Brown brought together different human communities engaged in political conflict to engage in creative listening, which, "rather than resolving difference, allowed difference to disturb too-easy resolution" (2017, 254). Tsing proposes that through a broadened definition of "listening" that includes other forms of awareness, we may be able to find ways of allying with humans and the more-than-human world toward common goals. Networked foraging is a practice of "becoming-with" other species (Haraway 2008); through harvesting and consuming forms of life outside our bodies, we transform our environments and are transformed. Our encounters with other

humans, the more-than-human world, and even within ourselves require practices of care and listening, as well as acknowledgement of the limits of what we know and can intuit at any given point in time.

Conclusion

For my interviewees, determining whether to harvest and consume something was rarely a straightforward process. Carefully assessing competing claims to truth and, for some, using one's body to test new relationships with other species were important parts of the process. Additionally, learning *when* to listen to one's intuition was critical to the process of determining whether something was not just safe to eat, but also worth eating.

Naturally-occurring toxins in foraged foods were one issue to contend with, while environmental toxicants were another. Among my interviewees, there was little knowledge of the human-made toxicants present within local environments. My interviewees tended to use a common set of heuristics across different environmental contexts, such as avoiding foraging near roadways, walking paths, or landscaped areas. When foraged items were deemed to be “edible” or “nontoxic,” my interviewees consumed them as a way to form intimate relationships within the local ecosystem, manage the environment in service of a particular vision or goal, conduct the work of “category shifts,” and revive traditional foodways, among other motivations. Many of these networked foragers essentially use foraged foods as biotechnologies with which to transform their own bodies, build relationships, and manage the local ecosystem.

My interviewees were often at a loss when it came to learning about and discussing the ethics of foraging. Many reported not knowing where to turn for information about how to forage ethically, and

many did not have easy access to information about human toxicants present in the environment. When conversations did emerge on Facebook in regard to foraging ethics, these conversations frequently erupted in conflict, and “pick shamers” were often immediately blocked by members of the group.

Taken together, these findings demonstrate that through foraging, networked foragers may transform their bodies, ways of life, relationships with other living beings, and ecological communities. These findings suggest that the networked foraging community I studied on Facebook, as well as other networked foraging communities, may benefit from (1) recognizing that foraging is a practice of world-making and “becoming-with” (Haraway 2008) other species, (2) developing methods to evaluate and collectively discuss the needs and desires of humans and the more-than-human world in local communities, and (3) nurturing open, respectful conversation about foraging ethics. These three capabilities are vital to identifying and articulating common agendas within our ecological communities (Tsing 2015).

{ Interlude 3 }

Westerville, Ohio— Delicate snow flurries sweep past the windows in my parents’ living room. It’s January 2, 2022 and about 30 degrees Fahrenheit outside, but closer to 70 degrees inside, with the gas fireplace on. Inside and tucked under a blanket, I’m enchanted by the scenery. To me, this is an ideal moment in which to go foraging for pine needles that I can use to make into a tea. Ever since seeing an Instagram post featuring a cozy cup of pine needle tea several weeks ago, I’ve been planning to make some while I’m home with my parents over the holidays.



Figure 7. An Instagram post showing a sleeved hand holding a mug of pine needle tea.

“Do either of you want to come forage with me?” I ask my parents, removing my blanket. My dad gets up and puts on a thick jacket and hat, while I shrug into my long winter coat. We step outside and head toward a small group of pines that I noticed a couple days ago while on a walk. The pines are

standing on land that doesn't obviously belong to anyone in particular—they're next to a roadway at a distance from a cluster of homes. I'm sure *someone* owns this land, but I don't know who that would be and I don't think they'd mind my dad and me walking here and foraging. As a white woman, I've rarely been apprehended for being somewhere I probably shouldn't be—one of many race- and gender- based privileges I experience on a daily basis.

Coming up close to the trees, I realize I don't know whether and how to harvest pine needles



Figure 8. My hand holding foraged pine needles.

without possibly harming the trees, so I scan the ground for fallen branches. I notice a couple handfuls of needles scattered on the new-fallen snow. I pick them up and place them in the thin tote bag my dad brought with him. We notice a cluster of dark berries hanging, dead, on the pines, and he puts a tendril of the shriveled berries in the bag. I'm delighted to see some mushrooms peeking out of the snow.

When we get back home, I begin the species identification process. I start by Googling “pine tree dark berries Ohio” and look through various websites. One of the websites includes a synoptic key that asks how many pine needles cluster

together in groups on the branch. From the bag, I take out one of the branches I found and gently splay the needles to count the needles in each cluster. Some of the clusters are so delicate, I'm surprised by how many I count when they are fanned out. I count clusters of two, three, and five pine needles. I'm not sure how to interpret this range, since the website seems to indicate that the clusters should be

consistent on each tree. At the moment, my top contender for the species ID is “Eastern pine” because a website called OhioLine lists that species as one that has needles that cluster in groups of five. However, the website describes these trees as being extremely tall and straight; their trunks were traditionally used as masts for ships. I’m not so sure that this is the right ID, since I don’t believe the trees in my neighborhood are quite that tall and straight, and Eastern pines don’t seem to grow berries like the pine trees I saw. I open the Seek app to see if it has any idea what the tree is, and it tells me that the tree is in the Pine family, but it’s not sure which species the tree belongs to.

As I’m trying to sort through the websites and apps, my mom asks what I’m doing, and I explain. She replies, “Pine trees don’t grow berries, as far as I know. The berries must be growing on a vine through the tree. And the tree is probably a Scotch pine. They’re used all the time around here in landscaping.” I had no idea my mom knew these things. I wonder how she first learned about the Scotch pines around here. I quickly search for descriptions and images of Scotch pine. Sure enough, that ID looks like it could be a match, but I realize that I didn’t look very carefully at the bark of the trees in my neighborhood. Instead, I was fixated on the pine needles and the beauty of the new-fallen snowflakes clinging to them.

I put my coat back on and head out again to get another look at the trees. This time, I look carefully at the texture and color of the bark, the size of the trunks, and the shape of the pinecones scattered on the ground under the trees. I notice that the bark is peeling in places, and red under the surface flesh. Fastened to the trunks are various intricate vines and growths, and I wonder what these different species are doing with each other. Are they in some kind of parasitic or symbiotic relationship? I take photos of the trees, so I can later compare them to photos I find online. Finally, I look more

carefully at the berries that I saw earlier. To my chagrin, they are indeed not attached to the tree at all—just coiled around it. Their vine is a much different thickness and texture than the branches of the tree. Before I leave, I pick up a pinecone and hold onto it, wondering if there’s anything I can do with it. By the time I get home, my hand is sticky with sap.

After scrubbing the sap off, I get back online and look through the photos of Scotch pine again. This time, I recognize the tree as the one I just saw in my neighborhood, even without having a distinct sense of how I recognize the tree. To move onto the tea-making process, I start by Googling “Scotch pine needles tea.” I don’t see many search results that are very helpful, so I broaden my search to, “use any pine needles to make tea?” Numerous websites seem to confirm that this is true, although they offer

warnings to watch out for Yew and some other flat-needled pines, which can poison humans. I go into the kitchen, rinse off the pine needles, and chop them into short segments while a water kettle heats up. After setting a tea strainer in a coffee cup, I fill the strainer with the chopped needles, and then pour the steaming water over them. I let the tea steep for several minutes and then cool off. Remembering Casey’s advice not to consume very much of anything for the first time, I take a tiny sip. The flavor is delicate and pleasant, although difficult to describe or compare to other things I’ve tasted. My mom and dad take tiny sips, too. Having had this



Figure 9. My cup of pine needle tea.

intimate encounter, I feel certain that I would be able to identify a Scotch pine now.

Chapter 6

Recording: “A living tree of life” on social media platforms

“There’s a living tree of life on the Internet, right now,” James tells me enthusiastically, almost halfway through our interview. Talking about publishing DNA sequence data to the web, James describes how international communities of professional scientists, citizen scientists, and others share information online about new species they encounter and study. After our meeting, I meditate on the image of a “tree of life,” sifting through variations on this theme, of which there are countless examples. Just a handful include: Gustav Klimt’s celebrated painting *Tree of Life, Stoclet Frieze* (1909); The tree of life planted on a giant turtle’s back from Haudenosaunee (or Iroquois) confederacy mythology; The “tree of life” sought after by the two protagonists in the 2021 fantasy adventure movie *Jungle Cruise*; The tree of life “in the midst of the Garden of Eden,” as described in the Book of Genesis; The tree of life that appears as a biomorphic pattern in Islamic architecture. Reflecting on this timeless symbol and metaphor, I begin to wonder what kind of networked foraging “tree of life” exists on the web, not just in terms of DNA sequence data, but also in the form of other digital content, such as networked foragers’ online posts, comments, “likes,” field data, and multimedia uploads.

One approach to studying this digital “tree” involves attending to the ways in which networked foragers decide what to share of their foraging experiences online. In this chapter, I discuss the ways in which my interlocutors described how their perceptions of digital audiences and social media algorithms influenced what they published online, as well as the ways in which they presented themselves as individuals. I argue that networked foragers may often have a bias toward sharing spectacles with an emphasis on visual aesthetics and abundance. As Haraway (2008, 251) writes, “the critters of the world...

are assayed by the standard of the visually convincing and, at least as important, the visually new and exciting.” Such images of “spectacular nature” become digital commodities that circulate on social media platforms and digital apps used by networked foragers such as Seek by iNaturalist (Altrudi 2021). These visual commodities accrue cultural capital and sometimes financial capital to the user who posted them (Gómez 2019). This bias in favor of the commodification of nature is encouraged by the widespread algorithmic privileging of digital content that receives higher levels of user engagement above content that elicits less digital interaction. This common algorithmic design, the result of human value-based decision-making, is aligned with tech companies’ broader goals of drawing and holding the attention of their users, so they can earn more money from digital advertisements and the collection and sale of user data (e.g., Beer and Burrows 2013; Seaver 2018; Zuboff 2019). While the commodification of foraging content on social media platforms may draw new participants into networked foraging activities and social groups, it may also encourage/reinforce a networked foraging culture of spectacle, entertainment, and commodification of nature and of the self (Gershon 2017).

Growing the digital tree of life

This section describes some of the ways in which my interlocutors described how they decided what to publish online about their foraging activities. The people I interviewed created and uploaded digital content to web-based platforms for a variety of reasons, such as to ask others to identify or confirm the species, to share that something was in season, or to show off a particularly voluminous harvest. All of my interlocutors reported uploading to Facebook and Instagram pictures or videos of plants, mushrooms, and other foraged items. Some also discussed writing or recording information using other

media, such as a local e-newsletter article and a hardbound journal. However, my focus in this section will be on my interlocutors' use of the digital media platforms Facebook and Instagram.

Some of my followers described posting certain kinds of content online in order to garner public attention and interaction. For Luke, who has a large Instagram audience and uses his profile as a way to attract business to his company, deciding what to publish to his Instagram page involved deciding whose attention he wanted to solicit, among his followers. As he observed, "My mushroom followers don't really follow me for my plant stuff, so if I post plants, they're not as interested in it." Luke also worked to post content that would receive more and "better" forms of digital engagement, such as comments and questions, by larger numbers of people. He described how he recognized, over time, that photos of mushrooms or berries elicited more digital engagement from his followers than photos of "leafy green" plants. He also noticed,

If a picture is more abundant, like, a lot of fruit or a lot of something, that gets more positive reactions—likes, comments, people reacting in a story—than just a small amount. If you have three berries versus a bushel of berries, people want the bushel of berries.

From Luke's perspective, posting digital content that shows abundant food attracts more digital engagement from his followers, so he is more likely to post a photo of abundance than relative scarcity. For him, posting content that elicits an immediate digital "reaction" from his followers is an important goal. This desire to publish posts that more people will engage with digitally are tied to Luke's perceptions of the ways in which the social media platform's underlying algorithm filters content and selectively promotes certain kinds of content over others. Luke discussed how he was "always kind of guessing" how Instagram's algorithm worked, framing his thoughts about the algorithm in terms of the platform "wanting" him to post in certain ways. When Luke decides that a post about a particular

species or topic is likely not going to garner as much digital engagement as he would like, often it ends up never getting posted, or he saves that content to post during the wintertime where he lives, in the “off season.” For example, he described a delicate plant that he would not be likely to feature on his Instagram page:

There’s a plant right now that’s out, it’s quite abundant. It’s called ‘galinsoga,’ and it’s a fairly inconspicuous plant. It has small, barely noticeable, white-petaled flowers, with a yellow interior and kind of these broad, green leaves. Delicious plant, lots of uses across many cultures. But if I posted a post about galinsoga... I know that that’s not going to perform that well.... So I might not post a galinsoga post. I might post a basket of mushrooms, or an armful of Kentucky coffee bean pods or something, you know, something like that instead. And the galinsoga never shows up, it’s just not as charismatic.

Luke admits that he is less likely to post about a plant such as galinsoga that his followers may not digitally react to as much, even if the plant itself is “delicious” and used in many cultures. Luke observes how, in this case, galinsoga suffers the same fate as certain animal species that are endangered but are not considered “cute” or “spectacular” enough to gain the attention of conservationists. Luke’s comments made me wonder how the emphasis on visual aesthetics on social media platforms may affect the kinds of species that are indexed online and known and discussed among networked foragers. Luke’s observations bring to mind a famous phrase from the media theorist Friedrich Kittler: “Nur was schaltbar ist, ist überhaupt.” JDP (2016, 26) translates this German dictum into English as, “Only that which is networkable or switchable exists at all,” and into vernacular English as: “If Google can’t find you, you don’t exist.” I wondered what the long-run environmental and social consequences might be for plants that are not indexed online, as well as those that are.

Another person I spoke with, Casey, actively resisted the “desires” of Instagram’s algorithms. Casey joined Instagram almost a decade ago when it was still a “minor platform,” before the news feed

displayed ads, and before there were Instagram “superstars,” using Casey’s term. In our meeting, Casey emphasized that they do not claim or accept the title of “influencer” even though they now have a large audience on Instagram. As Casey put it, “Don’t ever call me an influencer, I’m not an influencer. I don’t like that term, I don’t like that style, I don’t like that approach.” Casey used the term “playing to the platform” to characterize an approach that influencers and would-be influencers use to gain a following. Casey described people as playing to the platform when they “change what they’re doing to fit [the platform],” to “make a buck” or “be something they’re not, or whatever.” On the other hand, Casey brought up Alexis Nikole Nelson (@BlackForager) as an example of someone who uses Instagram in an authentic way, as an “outlet” for her ideas and “giddiness.” As Casey put it, “Alexis just kind of does things and... she just happens to be really, really good.” Talking about the pressures Casey perceived arising within the digital environment of Instagram:

When you were a kid, like, did you, you know, you felt a pressure to look a certain way, to act a certain way, to be a certain way. Instagram’s the same thing. Instagram is junior high, it’s putting pressure on you to photograph things a certain way, to present them a certain way, to be a certain way. I am not having that. I am going to put the messiest thing I can possibly put out there every once in a while, just to scare off the newbies.

Casey further elaborated on their desire to post “messiness” on Instagram to defy the perceived cultural pressure “to be a certain way.” They described posting mistakes on the platform, such as misidentifying a species they harvested, or explaining “here’s what happened today, here’s what I did” in a non-“curated” way. For Casey, actively rejecting what’s popular or conventional on Instagram is a way to remain true to oneself, although it can sometimes mean not getting as many “likes” as others who are more willing to “play to the platform.” From Casey’s perspective, some people, such as Nelson, have a natural way of presenting themselves online that happens to gain widespread attention.

These observations from Luke and Casey point to the ways in which platform and algorithm design can influence what networked foragers post, with implications for the digital “tree of life” that represents the digital content of networked foragers. In Luke’s experience, some types of flora or fauna are deliberately not posted (or are posted off-season) because they may not garner much digital interaction from his followers, for whatever reason. In Casey’s experience, actively rejecting the “influencer” title and the social pressure on Instagram to showcase “curated” content means sometimes posting mistakes or “the messiest thing.” In both cases, Instagram’s algorithms, and the incentives those algorithms create, significantly shape the growth of the digital “tree of life.”

Networked foragers’ self-representations

This section will highlight some recurring themes in how my interlocutors reported sharing of themselves on Instagram and Facebook. Here, I posit that social media platform and algorithm design—the result of human value-based decision-making—may encourage/reinforce a networked foraging culture of spectacle, entertainment, and commodification of nature and of the self.

The design of social media platforms can distort how people are perceived within their broader communities. One of my interviewees, Adam, who is a member of the Facebook foraging group, told me about how he creates his own digital field guides which he shares with members of his foraging group. Frustrated by printed field guides that feature only one or two photos of many different species, or many photos of only a few species, Adam uses digital media to get around the problem of expensive color printing. He shoots and assembles digital photographs of particular species from multiple angles to make identification guides. As Adam says, “I’m just pushing for people to look at mushrooms. Like,

really look at them and see that there's subtlety in them and they're complex, and if you pick up on those subtleties, then you'll really get to know those mushrooms." Adam's guides describe what each species often tastes or smells like, in addition to providing visual cues to help with the identification process. Along similar lines, Adam described his frustration with certain people in his non-foraging Facebook community who noticed him posting online about foraging mushrooms. When Adam perceived that they were thinking of him as just "the mushroom guy," Adam described limiting his posts about foraging outside of the Facebook foraging group because he found it "aggravating" that people began to think of him as only interested in mushrooms. From Adam's perspective, some people can begin to see a Facebook profile as entirely encapsulating a person, and in his case, he chose to keep his foraging posts out of public view in order to avoid being associated solely with mushrooms. Adam recognizes that not only are mushrooms complex, multi-dimensional beings, but people are, too. Frustrated by the ways in which people can misinterpret public profiles (and public profiles can be misleading representations of humans), Adam chooses to often filter out foraging posts from his public news feed, limiting those posts to his Facebook foraging community.

Similarly, the Instagram user Luke describes cultivating a "public-facing persona versus who I actually am" by accommodating the desires of his Instagram audience. As he put it, "The bigger my account gets, the more I'm kind of subdued and kind of pigeon-holed into posting, you know, more middle-of-the-road foraging content—all foraging content, all the time." Although Luke would like to use his personal Instagram profile to publish about activities not directly related to foraging, he received pushback from some of his followers who wanted his profile to be solely focused on foraging content. Luke then told me that when he has in the past posted about politics, including issues related to local

Indigenous and unhoused peoples, he lost “sixty or seventy followers, like, instantly.” Noting that none of those people were from his hometown, he observed that his “sphere of influence” and relevance was mostly centered on Instagram users who were located near him or lived in the same regional area. Luke’s experience suggests that among his followers who did not live near him, there may be higher expectations around posting “foraging-only” content, divorced from local politics and circumstances. Toward the end of our conversation, Luke noted that “there’s definitely a very narrow lane of human experience that is allowed to be expressed” on platforms like Facebook and Instagram. He told me, “You only see curated existence.” Based on Luke’s account, there seemed to be complicated dynamics at play on the Instagram platform. While the platform supports interactions and knowledge-sharing among people around the world, such interactions might sometimes come with expectations and platform-based incentives for content that is consistent and “pure” in subject matter in order to be immediately relevant and applicable to anyone, anywhere. Luke’s experience of feeling pressure to sell himself as a consistent, marketable product is consistent with observations Alanna Gershon (2017) makes about the commodification of self within the U.S. labor market.

Not everyone I interviewed reported feeling so limited by the pressures of social media. Another person I interviewed, James, described feeling relatively uninhibited when he posts on Instagram. As he put it, “I definitely present myself as-is, unfiltered.... Sometimes I’m happy on Instagram, and sometimes I’m super depressed or sometimes I’m angry and all of that gets out there.” However, James noted that he likes to “document ethical fun” for his younger followers, in order to serve as a positive role model. “Culturally, what’s fun is, like, fucked up, sometimes. Like, we’re having fun at the expense of poor people in the southern hemisphere making and taking care of everything for us....” James described

feeling motivated to share ways to engage in more “ethical fun” that is environmentally and socially sustainable and works to avoid creating more suffering in the world. Although James felt relatively free to express himself on Instagram, he recognized that social media platforms are powerful spaces in which ideas and values may be spread widely, and he took care in making decisions around what to share online.

Conclusion

In this chapter, I describe how the digital content that some networked foragers contribute to Instagram and Facebook may be differentially influenced by their perceptions of what these social media platforms “want” and algorithmically reward. Many of my interlocutors perceived that social media platforms incentivize users in subtle and explicit ways to post digital content that elicits a high degree of digital engagement (such as content that gets more “likes,” “shares,” and “comments”). While one of my interviewees tried to adjust their strategy in accordance with the algorithm’s preferences, another actively resisted the prevailing culture of “curated existence” on Instagram by posting mistakes and messes. Furthermore, the ways in which social media platforms and users may value consistency of subject matter online can lead some networked foragers to feel inhibited in what they may share of themselves on the web. Such findings suggest that social media platforms sustain a networked foraging culture that encourages the commodification of the environment and self. A networked foraging culture that valorizes “pure” foraging content and “spectacular” nature misses the fundamental and everyday entanglements of the human and more-than-human world.

Chapter 7

Anti-conclusion

Bodies and landscapes are constantly in conversation and material exchange. Our bodies are always trading substances with the air and earth, and the land is always changing in interaction with bodies, technologies, and techniques. Likewise, my findings in this project are specific to the time and place in which I conducted research; the people I spoke with and networked foraging communities I studied are already different now than they were. In that spirit, the title of this section is inspired by Anna Tsing's "Anti-ending" at the conclusion of *The Mushroom at the End of the World* (2015). This anti-conclusion aims to summarize my research findings, and then, like a sporulating mushroom, offer ideas for future research that might catch hold of other researchers' imaginations and grow into something new.

The histories of the U.S. high-tech industry and land ownership infrastructures within which contemporary networked foragers act are underpinned by colonial, capitalist, patriarchal, and white supremacist logics. These logics constitute an ecological regime within the United States that transforms bodies and land, disproportionately harming black people, people of color, Indigenous peoples, immigrants, and women, among other marginalized groups. This regime profits from the systematic exploitation and commodification of land and humans, and accrues capital and power to white, colonial corporations, entities, and the people who represent them.

Acting within this ecological regime, networked foragers use a variety of technologies and techniques to orient themselves within their local environment and develop skilled vision. This type of skilled vision represents a group-based form of environmental awareness that is attuned to the sight,

smell, sound, taste, texture, and time scales of more-than-human forms of life. Learning to see the world through this type of skilled vision opens up new possibilities for relating to and interacting with the land. For example, some networked foragers I interviewed are using their bodies and foraged foods as biotechnologies with which to intimately connect with the local ecosystem, develop new relationships, and maintain the environment.

At the same time, the learning process for some networked foragers may be limited by Western, colonial scientific perspectives and expertise that primarily comes from a certain privileged demographic group. Furthermore, interactions on Facebook may, in some cases, foreclose difficult but generative conversations about foraging ethics and the needs of more-than-human forms of life. An inability to address ethics and politics neglects the important truth that foraging is a practice of world-making and “becoming-with” other forms of life—through foraging, we transform ourselves and our ecological communities. Developing methods for “political listening” and nurturing respectful, candid conversation about ethics among foragers is vital to identifying and pursuing common agendas within our ecological communities.

Finally, social media platform design encourages the commodification of nature and self through the widespread algorithmic privileging of digital content that receives higher levels of user engagement above content that elicits less digital interaction. While the commodification of foraging content on social media platforms may draw new participants into networked foraging activities and social groups, it may also encourage/reinforce a networked foraging culture of spectacle, entertainment, and consumerism, and discourage the interlinking of foraging with politics and ethics.

Future research might investigate methods of designing digital tools and platforms in order to facilitate multi-species relationship-building and difficult conversations among humans about politics and environmental ethics. Future research might also explore ways to better account for the needs, desires, and experiences of the more-than-human world on the web.

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