7. Infinite Fungus
Capitalism, Nature Writing, and Anna Lowenhaupt Tsing's *The Mushroom at the End of the World* (2015)

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1. Map and Microterritory

Almost at the end of the journey, you find the gem. It is hidden away in the underground. After roaming the forests of Oregon and Finland and China and Japan and after investigating all sorts of late twenty-first-century capitalist practices (foraging, collecting, exporting, consuming, destroying the planet), you spot it in the endnote section. A writer more hungry for attention than Anna Lowenhaupt Tsing would have moved it out into the open. In this study it's buried on page 297, in note 1 to chapter 5, in the final sentence of a paragraph explaining how mushroom pickers in the Oregon woods are supplied with maps by the Forest Service. These maps indicate where fungi should and shouldn't be picked. Nobody pays much attention to the maps. People pick wherever the picking is good. But apparently these maps lead second lives. Certain mushroom pickers use them "as toilet paper, which is scarce in the campgrounds." (297).[1] Fascinating ideas pop up here regarding the map and the territory, representation and the real, epistemology and personal hygiene. It's a joyful struggle to wrap your head around what all that might mean.

Maybe that bit's too odd and minuscule to really matter. Then again, to reflect on things from a decidedly weird microperspective is the whole point of Anna Lowenhaupt Tsing's *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*. Most definitely the book counts as a "lens history." Swarms of books claim that the widest range of ideas will take flight if you

1 All parenthetical citations in the text refer to Anna Lowenhaupt Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (Princeton: Princeton University Press, 2017).

only look intently at this superfine detail that some hyperactive historian, ethnographer, or cultural studies person considers multi-layered enough to command your attention. There's the one on the zipper and the one on the paper clip and all the other ones on the saxophone and the banana and the toothpick and ostrich feathers and sand.[2] Tsing's work self-identifies as a study of the matsutake mushroom and of that particular mushroom only. There's nothing on chanterelles here and nothing on porcini, not even nicely sautéed ones. For better or worse, there's also nothing about fungi growing on and in people's bodies. Instead, Tsing presents an in-depth, intercontinental exploration of the way people relate to matsutake and how matsutake relate to us as people and to the fragile planet we live on for the time being. She gives us an ethnographic study of men, women, and highly specific objects, a study of international commodity chains, and a riff on Ursula K. Le Guin's reflections on storytelling as foraging. To call up Bill Brown's reflections on "thing theory," it is more than a study of how matsutake "organize our private and public affection."[3] Against a global backdrop, she explores work, business, and power.

Hence, while its focus may seem narrow, the study's key ideas root in openness and largesse. The matsutake mushroom impresses the ethnographer as a truly cooperative creature. She explains how trees and matsutake support each other. The mushrooms live off the tree roots. In turn they make it possible for the trees to live in otherwise barren soil. And so far, this kind of inter-species solidarity has been working only in the wild. According to *The Mushroom at the End of the World*, Japanese investors have wasted "millions of yen … making matsutake cultivation possible." But these subversively altruistic fungi don't thrive in a plantation system. They are utterly wild. They need "the dynamic multispecies diversity of the forest" (40).

Why spend all this money on industrial matsutake production? In Japan, many feel fondly about these mushrooms. They smell like "village life," matsutake lovers say. Their scent recalls "pinewoods" and "chasing dragonflies" and, more generally, the past (in case the past seems attractive). To one of

2 On "lens histories" as "mundane studies" see Cullen Murphy, "Out of the Ordinary: 'Mundane Studies' Comes of Age," *The Atlantic*, October 2001, https://www.theatlantic.com/magazine/archive/2001/10/out-of-the-ordinary/302310/.

3 Bill Brown, "Thing Theory," in *Things*, ed. Bill Brown (Chicago: University of Chicago Press, 2004), 1–16.

Anna Tsing's interviewees, matsutake smell like the paper dividers of a traditional Japanese home, simply because someone in that person's life used to wrap each new batch of fungi found in the forest with the paper annually taken down in that house. With all this nostalgic mindfulness floating around Japan, it comes as no surprise that haiku also praise these fungi. Take Akemi Tachibana's nineteenth-century poem: "The sound of a temple bell is heard in the cedar forest at dusk, / The autumn aroma drifts on the road below" (qtd. in Tsing 7). Consider twentieth-century poet Ko Nagata: "The moving cloud fades away, and I smell the aroma of the mushroom" (qtd. in Tsing 7).

And yet, in matsutake country, there's only so much room for tasteful lyricism. Tsing compares her protagonists to "rats, raccoons and cockroaches." Stubborn survivors, they prosper in the "environmental messes humans have made" (3–4). A matsutake mushroom was the first living thing to emerge from the area struck by the Hiroshima nuclear bomb. To notice and praise them seems less like a nostalgic ritual and more like a semi-optimistic micropractice in the environmental crisis we all find ourselves in. As Tsing posits: "In a global state of precarity, we don't have choices other than looking for life in this ruin" (6). We might as well emulate trees and fungi, living together "without harmony or conquest," existing in "disturbance-based ecologies" (5). By and large, however, *The Mushroom at the End of the World* sidesteps overly utopian concepts of humankind finally living like mushrooms. Her study explores capitalism—no matter how wondrous the matsutake's smell.

2. Capitalism in the Woods

People pick matsutake in the forests of Oregon. Native Americans pick. Latinos pick, White people pick, Asian refugees pick: Mien, Hmong, Cham, Khmer. A Khmer picker tells Tsing that he speaks four languages: English, Lao, Khmer, and Ebonics. These are truly cosmopolitan woods. There are noodle tents in the forest campsites, karaoke tents, gambling and barbecue.[4] *The Mushroom at the End of the World* zooms in on the Asian pickers, their

4 Not everyone loves foraging the way most foodies do. George Packer, in *The Unwinding: An Inner History of the New America* (New York: Farrar, 2013), 184–189, calls California restaurateur Alice Waters "Radish Queen," because the contemporary obsession with regional, organic, and wholesome food that is not trucked in from God knows where has turned into a class marker, suggesting a sort of delusional version of social change. The radish, the carrot, the berry: they're adored as if they had utopian potential in

stories, their perspectives. In a particularly moving segment, the study sketches what time spent in these woods means to Cambodian refugees. On the one hand, it returns them to forests and thus to traumatic experiences in the wartime jungles of Southeast Asia. On the other hand, they now roam "in the safety of American imperial freedom," as one Cambodian matsutake expert explains (88). Thus, Oregon turn into a more peaceful version of the Asian jungle. It morphs into a space of freedom. "Mushroom picking," Tsing explains, "layers together Laos and Oregon" (91).

Then again, as one of the Lao pickers says about these woods, "Buddha is not here" (76). The pickers aren't foraging matsutake to take them home, gaze at the clouds, wait for the temple bell to ring and then write haiku. They pick mushrooms in order to survive. At the end of the picking day, they take them to a market: situated in a few tents by the side of an Oregonian highway. In these tents, buyers buy matsutake from the pickers. It's safe to say that these buyers aren't haiku specialists either. They don't buy fungi for inspiration. They are middlemen for the bustling Japanese matsutake market.

The Mushroom at the End of the World doesn't categorize pickers as helpless victims and buyers as evil mycological Scrooges. In these tents by the roadside a highly dynamic, flexible ritual unfolds. People negotiate prices. Things get intense. Very few rules are in place. To Tsing, pickers, buyers and field agents are engaged in dramatic choreographies. Sure, all these interactions revolve around money and mushrooms. But the ethnographer sees "freedom" as the most important exchange going on in these forests: a kind of "mushroom fever," an emotionalized practice inspiring pickers and buyers to liberate themselves. To the amateur reader of her work, this very much looks like a version of Geertz' Balinese cockfight, a superspecific, highly intense, and yet quite universal site of symbolism and competition. Unlike the rituals interpreted in Geertz' study of cocks, these negotiations aren't "based on the deep psychological identification of men with their" fungi.[5]

Tsing cites an economist who sees the mushroom microeconomies in these Oregon tents as a prototypically pure market where all things are equal and it's all about buying and selling: capitalism in its most egalitarian form. Mushroom aren't "alienated commodities" in this remote place. Though it's

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themselves. And thus, it would seem at first glance, this particular fungus might have the same sort of potential.

5 Clifford Geertz, "Deep Play: Notes on the Balinese Cockfight," in *The Interpretation of Cultures*, ed. Clifford Geertz (New York: Hachette, 2017), 435–474.

no easy task at all, matsutake picking doesn't count as "work." As one of the interviewees explains, to work means to obey your boss. Pickers don't have bosses. And the negotiating practices in the buyers' tents can go either way. On good days, the pickers will be in charge and the buyers will have to do whatever it takes to satisfy them (80–82).

A niche is a niche, though, and apparently capitalism is no wholesome outing in the woods. Nothing accumulates in these tents. There are matsutake and there's money, but there's no capital. The lives of the pickers are completely precarious, utterly dependent on fungi pushing their way up toward the light in the few months of the picking season (and on the coincidence of reaching the right spots before other pickers will). In places like Vancouver and Tokyo matsutake trading may enable individuals and corporations to amass capital. The exhilarating scenes in the forest, however (pickers haggling for higher prices and buyers shouting into their cell phones), function less like an allegory of an utterly free market (everyone competing on the same level) and more like a homogeneous community that includes pickers and buyers both. They may seem to collide in these negotiations. And yet, in the greater scheme of things they are all engaged in a kind of outdoor theater production subsidized by Japanese companies and matsutake consumers as affluent as they are nostalgic. Transnational corporations put up with the strange display of what one matsutake importer calls "American psychology"— quasi-anarchic trade in the woods—because, as Tsing puts it, they can "translate the exotic products of American freedom into Japanese inventory—and, through inventory, accumulation" (83).

Thus, woods, mushrooms, pickers, haggling, noodle tents, and sylvan karaoke bars come together to form a link in the global supply chain and there's not much freedom and not much exhilaration in what happens to the matsutake once trucks have taken them away, out of Oregon, in crates cooled by ice gel. Gig workers handle the mushroom in warehouses. These are people "without benefits" (127), far from the freedom of the forest, standing all night underneath bright lights to group fungi by size and age. The objects found by people who don't have bosses turn into "an acceptable export commodity" in these warehouses—and only when they have finally reached Japanese shores does their aroma prompt any sort of association with the past and its poetry (128). That's another matsutake haiku, composed by Anna Tsing, twenty-first-century author: "[T]he concentration of wealth is possible because value produced in unplanned patches is appropriated for capital" (5).

3. Nature Writing and Fish Fingers

People praise *The Mushroom at the End of the World* for its literary appeal. As they should. One blurb finds "the flowing prose of a well-crafted novel" in these pages. Another credits Anna Tsing with "weav[ing] an adventurous tale." The writer herself insists on the formal experiments and attractions of her study. She points at the "riot of short chapters" she presents and how they might remind us of "the flushes of mushrooms that come up after the rain." These fungus-like chapters, she states, "build an open-ended assemblage, not a logical machine." She wants her readers to "experience" the type of "mushroom fever" she herself has felt in so many different places, with so many different actors involved (viii).

Like matsutake mushrooms, though, such writing will end up as a commodity at some point. It brings pleasure. People will want to consume it. The market in this case is the one for "nature writing," one of the hottest nonfiction genres on our hot planet. And smelly fungi and remarkable prose really do have a lot in common. People (mushroom pickers / nature writers) roam the woods. They look for things. Rare things. They find things, if they're lucky. They hold on to things. They see intermediaries (buyers in tents / literary agents) and then they sell matsutake to Japan or manuscripts to publishing houses. In the same way that matsutake grow in forests marked by destruction, the current fascination with nature writing emerges from a gripping sense of ecological crisis.

Take Robert Macfarlane, the most popular nature writer of our time, and his massive 2019 book *Underland*. Like Anna Tsing's study, this book makes a major effort to understand stuff usually hidden underground. Macfarlane explores the hidden spaces underneath Yorkshire and Paris, the Slovenian Highlands and Greenland: "We know so little of the worlds beneath our feet," Macfarlane writes.[6] Amazed by what he knows and we don't, he delivers his account from these worlds. There are many spectacular things in *Underland* and fungi are high up on the list. Macfarlane asks us to consider the biggest fungus in the world. Coincidentally it makes its home in Oregon. We humans call this thing the "honey fungus." It covers an area of four square miles. "The blue whale is to this honey fungus as an ant is to us," Macfarlane says.[7] But

6 Robert Macfarlane, *Underland: A Deep Time Journey* (London: Hamish Hamilton, 2019), 11.

7 Macfarlane, *Underland*, 102.

it's not just size, it's the otherness of fungi that seems to unsettle him: the way they connect, the way they cooperate with trees. As the embodiments of cooperative existence, they "thwart our usual sense of what is whole and singular, of what defines an organism, and of what descent and inheritance means."[8] Deleuze and Guattari's rhizomes seem to grow somewhere close, their "fuzzy aggregates, in other words, multiplicities of the rhizome type," but these men don't count as nature writers, nor as true fungus experts.[9]

Like matsutake pickers, nature writers do a lot of walking. In one chapter of *Underland*, Macfarlane hikes through Epping forest. A mycologist tags along and shows an even higher awareness of this terrain than the renowned author/peregrinator preparing his next tome. Macfarlane cites Anna Tsing in this segment: her essay "Arts of Inclusion, or How to Love a Mushroom" and her appeal to look down more in the woods, in order to get a sense of the "city … under your feet."[10] Then Macfarlane and his attendant mycologist lie down and gaze up (even though Tsing had told them to look the other way). Gazing at the treetops, the writer finds it "hard not to imagine these arboreal relations in terms of tenderness, generosity, and even love: the respectful distance of their shy crowns, the kissing branches that have pleached with one another." He then remembers "something Louis de Bernières has written."[11] And the scholar of fungi explains a few things to him about what's going on down below.

In contrast to such implausible meditations, *The Mushroom at the End of the World* never once aims for the monumental. Anna Lowenhaupt Tsing doesn't have time for super-giant creatures nor for grandiose literary inspiration suddenly springing up in the woods. You never sense that its author roamed the world (even though she has). Anna Tsing's approach resembles the much more modest subgenre of nature writing that Kathleen Jamie has defined as prose produced by people "who can't spend a year crawling in bushes" because they need to come home at night "to make the kids fish fingers."[12]

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8 Ibid.

9 Gilles Deleuze and Felix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, 2nd ed. (London: Continuum, 1987), 558.

10 Anna Lowenhaupt Tsing, "Arts of Inclusion, or How to Love a Mushroom," *Manoa* 22, no. 2 (2010): 191–203.

11 Macfarlane, *Underland*, 99.

12 Helen Macdonald et al., "Country Files: Nature Writers on Books that Inspired Them," *The Guardian*, April 30, 2016, https://www.theguardian.com/books/2016/apr/30/country-files-nature-writers-books-inspired-them.

Then again (and even though Henry David Thoreau did spend a fairly long time in bushes), *The Mushroom at the End of the World* acutely resembles the largest specimen of big-ego nature writing: the text that is to Robert Macfarlane as the honey fungus is to the whale (or vice versa, it's hard to keep track). Anna Lowenhaupt Tsing's study will definitely echo Thoreau's work if your favorite passage in *Walden* is the scene in which one hundred laborers move toward and onto frozen Walden Pond, "harvesting" ice.[13]) Lawrence Buell imagines Thoreau not as the "androcentric" writer of the "Imperial self," but as a "more complexly gendered" thinker, one actor in "an extensive, variegated literature of environmental prose."[14] Following Buell, we could read *The Mushroom at the End of the World* as a twenty-first-century *Walden*: exploring both what's beneath the surface and what is the surface itself and how it's being transformed.

Like Thoreau in his pastoral retreat right by the railroad tracks, Anna Tsing explores disturbed worlds. Matsutake grow in sites utterly changed by volcanoes, sand dunes, glaciers, or by human destruction (50). Her nature writing emerges from two kinds of landscape most conducive to matsutake growth. First, there are forests created by humans to produce timber: industrial forests. Then there are peasant woods, where trees are constantly cut back, chopped, where landscapes become "denuded" (171). In these territories, industrial or peasant, pines thrive. And where pines thrive, matsutake may not be too far. "Together turning rock into food," the study observes, "matsutake-pine alliances stake out places with little organic soil" (171). From this fungus/tree coalition, the study unfolds larger concepts of cooperation. It explores assemblages, pine/mushroom/soil/human. Polyphonic music serves as a guiding metaphor for Tsing. She suggests combining ethnography and natural history. "Human-disturbed landscapes are ideal spaces for humanist and naturalist noticing" (160). Disturbance, not the yearning for harmony, drives her book forward. In response to disturbance, "ways of life come together," and thus, "patch-based assemblages are formed" (163).

That sounds like a concept much different from gazing at tree branches kissing in Epping forest. It certainly leads to a different kind of nature writing, a kind of "noticing" less dramatic than the excited accounts of continually

13 Henry David Thoreau, *Walden*, ed. Stephen Fender (Oxford: Oxford University Press, 1999), 265.

14 Lawrence Buell, *The Environmental Imagination: Thoreau, Nature Writing, and the Formation of American Culture* (Cambridge, MA: Harvard University Press, 1996), 26.

amazed explorers. To Tsing, for instance, a "soggy box of Zhong Nan Hai Super Chinese cigarettes" is not just a piece of trash in the forest (247). It will help the picker in the Oregon woods find the right kind of picking grounds. They will notice that a previous noticer, a Zhong Nan Hai-smoking Southeast Asian mushroom expert, has passed through these woods before them. Hopefully, though, he will have stopped and bent down in slightly different places. Matsutake reappear close to where matsutake have appeared. So trash helps. To truly notice, to find mushrooms and to write nature, it is important to "slow down": to be "[c]alm but fevered, impassioned, but still." Find the bump on the ground, even if it's not really a bump. More the idea of a bump. Or a crack. A minuscule one. Look for "lumps and cracks" indicating "a living thing slowly, slowly pushing" (242). You see huckleberries around? Not a good sign: too much humidity. Recent tracks of heavy machinery: bad signs. But animal tracks and excrements: these should make you optimistic. Anna Tsing calls this kind of data interpretation "a form of forest knowledge and appreciation without the completeness of classification." What happens instead, this particular nature writer argues, is that beings, like these particular mushrooms, are "experienced as subjects rather than objects." (243).

4. Research & Recipes

Yes, there is an organization named "Matsutake Worlds Research Group." Reading this book, you will learn more about this collective. And ever the collaborative scholar, Anna Tsing tells us about her fellow researchers and about what else may be coming our way after *The Mushroom at the End of the World*: Michael Hathaway's work on mushroom picking and selling in Yunnan, China, for instance, or Shiho Satsuka's studies of the construction of Japanese matsutake knowledge. But she also sheds light on the limits of international cooperative research in the field. Reporting from the first international matsutake studies conference, she acknowledges that much of the event seems to have been shaped by silences and misunderstandings. Apparently, only one conference segment really worked out. Before the papers were given and the audience settled into the rhythm of not getting each other's points, the scholars from China, Japan, North Korea, and the United States spent two days together doing fieldwork. As Anna Tsing puts it: "we watched each other watching the forest" (224).

To cooperate nonetheless and to profit, like pine and matsutake, from collaboration in crisis—that is a central idea of *The Mushroom at the End of the World*. Countless parallels grow from fungi to people and back again. It's one of the study's magical feats that these parallels hardly ever seem forced. Anna Tsing teaches on two continents and she sees two tendencies at play in Europe and the United States. In the Old World, scholarship has turned into a numbers game. Authorities assess research with statistical precision. In the United States, she finds that scholars are forced to define themselves as brands, as entrepreneurs, as actors in a star system. Against these two tendencies, she pits "the pleasures of the woodland" (286). She hopes that experts won't transform this territory into a "garden." She plans "to keep it open and available for an array of species" (286). Scholars, in her dictionary, function as gatherers, not as hunters. They tell stories "simultaneously true and fabulous" (viii). It is, she argues, the only way we can "account for the fact that anything is alive in the mess we have made" (viii).

In this spirit, you finish the book with some sort of hunch that it has turned you into a better and/or happier person and that there's a slight chance of survival in "capitalist ruins." But if you're an anti-metaphorical modernist or just a plain old homemaker looking for useful hints on how and why he should cook these things that the members of the Matsutake Worlds Research Group have devoted their working lives to, then Anna Tsing doesn't really pamper you. Sure, it's fascinating to see how someone takes that wonderful fungus, rips it from its universe and turns it from a communal product into a "privately owned mushroom" (271). And it's inspiring to think about how the most interesting fungus of all emerges from "an underground common" (274) only to turn into a "fully alienated creature of exchange" (272). But how does the matsutake mushroom smell, how does it taste? Does it go well with fries? What kind of pasta would work? The book reserves some, but relatively little energy to these questions. Tsing cites a mycologist who finds a note of "dirty socks" in the fungus' aroma (51). To the cuisinier, that is not much more than a slightly underwhelming start.

Here then, foraged from *The Mushroom at the End of the World*, some truly useful information. These idiosyncratic mushrooms do not respond well to metal. So don't chop them with a knife. Take them apart with your fingers. Grab a frying pan. Heat the pan. Don't use oil. It will change the smell. In no case should you use butter. That would ruin everything. Dry grill them. You may want to reconsider your approach if you've found your own personal batch of matsutake close to a type of tree called "white fir," affectionately nick-

named “piss fir” for its distinct smell. The tree will have passed on its scent to its fungal friend and the result of this marvelously symbiotic anticapitalist relationship will have traveled all the way to your kitchen and will definitely move on to your taste buds. Change course, in that case: you might have to pickle and smoke these particular objects (or subjects). But if piss firs haven’t grown nearby, grill these creatures of exchange. Then use a few drops of lime juice.