

Article

"I Was Born!": Personal Experience Narratives and Tree-Ring Marker Years

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Abstract: This essay, co-written by a dendrochronologist (Nick) and a narrative theorist (Erin), considers how these two disciplines can meet to illuminate alternative narratives in tree rings. At the basis of our conversation is a desire to tease apart tree experience and the signification entangled within human practices of storytelling. First, Nick explains recent developments in dendrochronology and critical physical geography (CPG) that call attention to the ways in which tree-ring sciences often naturalize imperial narratives and demand alternative methodologies. Second, Erin dives into the imperial narratives of two case study tree bodies, throwing light upon the human and vegetal stories that these dominant narratives obscure and silence. Third, Nick turns to an experiment in critical participatory action research (CPAR) to suggest an approach to tree-ring dating—*material dating*—that takes its cues not from imperial histories but from a simultaneous interest in community engagement, anticolonial scholarship, and tree agency and signification. Fourth, Erin explains how material dating, via foregrounding personal experience, stands to produce a narrative more sensitive to a particular tree's situated experience and better able to foment understanding among tree body viewers for the tree as a living and communicating organism. Finally, Nick and Erin use material dating to produce an alternative narrative for one of our case studies and provide directions for other scholars to replicate our process.

Keywords: dendrochronology; narratology; trees; critical participatory action research; personal experience narratives; critical plant studies; anticolonial studies; critical physical geography



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1. Introduction

Our story begins with the two of us—Nick (they/them, a white gender queer settler-origin dendrochronologist) and Erin (she/her, a white cis-female settler-origin narrative theorist)—drinking coffee in a second-floor hallway of the University of Idaho's (UI) College of Natural Resources (CNR) building. While we sip, we study a cross-section of a Ponderosa Pine tree that was donated to UI by the Coeur D'Alene Athletic Round Table in 1950 (Figure 1). The imposing, five-feet-diameter tree cross-section is accompanied by an interpretive sign that calls our attention to various marker years that denote key dates within the lifetime of the tree. Beginning in 1450, the dates run us through a who's who of continental, national, local, and institutional history: Columbus's "discovery" of America in 1492; Peter Minuit's purchase of Manhattan "from a native tribe for an equivalent money value of twenty-four dollars" in 1626; Lewis and Clark's expedition in 1805—"the first Europeans to set foot in what is now Idaho"; Captain Pierce's discovery of gold on the Clearwater River in 1860; the official establishment of the federal forestry (1876), university (1889), and state (1890); the appointment of the first professor of forestry at UI (1909) and the Dean of the new School of Forestry (1917); the inaugural offering of an undergraduate course in "Wood Utilization" at UI (1935); and the debut of Smokey the Bear "as a symbol for the nationwide forest fire prevention campaign of the state foresters and the U.S. Forest

Service” (1945). And, because we are in Idaho, there are potatoes: the sign tells us that “Reverend Spalding is said to have first planted potatoes” in nearby Lapwai, Idaho, in 1837, and “barely got his seed back”.



Figure 1. CNR tree cookie with interpretive signs above.

Nick tells Erin that this cross-section reminds them of another sample an archivist forwarded to them when she was digging around in the university’s digital archives (Figure 2). They show Erin a photograph of what appears to be a young woman with brunette hair and tight curls posing for the picture as she dutifully yet pleasantly studies similar tree rings. Like the modern CNR cross-section, the tree rings in the photograph have been annotated with marker years. A large block of text placed on top of the body tells us that this tree, “at the time of the cutting (1940) after 450 years of growth”, has “made possible many Centigrade Roofs”. Moving inwards, we learn that the tree was 284 years old in 1776, such that “when our forefathers set up the U.S.A. this tree was proving the advantages of the Northwest climate”. We then learn that when the tree was 128 years old, in 1620, “the Pilgrims were landing in Plymouth” and the tree “was well on its way as a forest monarch”. A marker in the center of the tree, pointing to its pith, tells us that “when Columbus discovered America, this tree was in its teens”.

We immediately clock the many parallels and similarities between the two trees—not only the shared marker year near the piths but also the way that both rely upon historical dates to tell a specific story about our place in the world. But we also recognize how tree bodies—especially those that have been portioned out as cross-sections for display—are more often than not co-opted by human narrators to tell a story of imperial, white, cishet-male, upper class *human* history, thereby naturalizing that narrative by storying it into tree rings¹. We both ask: why are tree bodies so often made to tell *this* tale? And what might trees like these say otherwise, should they be freed from the shackles of imperial narratives?



Figure 2. College of Forestry 1940 photograph from University of Idaho digital archive, titled “A student studies tree-ring dates. 128, 284, and 450 years old labeled”.

We recognize these as not glib questions. We are also not the only ones to ask them [1]. Indeed, we join recent efforts to re-interpret the imperial narratives that tend to overlay tree rings. When Cree Educator Stan Wessley took his daughter to see a dinosaur exhibit at the Royal Ontario Museum (ROM) in 2016, he tweeted about the false claim in a Douglas Fir tree cookie’s interpretive sign that “Christopher Columbus Discovers America” in 1492. The museum’s Indigenous Advisory Circle (IAC) worked with Wessley and Tseshah members Darryl Ross Sr, Willard Gallic, and Gordon Dick to refresh the interpretation; while the IAC agreed that they could not change the intellectual property of the artist who painted marker years onto the tree body in the 1920s, they took Wessley’s prompt as a chance to add additional signage that corrects the false claim and produce a video that interviews Nuuchahnulth nation members from the Tseshah First Nation about the cultural significance of this particular old-growth tree [2].

Likewise, a White Oak tree cross-section in Western University’s Indigenous Learning Space offers students a chance to challenge dominant perceptions of time and events. Lauren September Poeta, or Waabaabagaakwe, an archaeology graduate student and member of the Wiikwemkoong Unceded Territory, guided a CBC reporter through the lessons encoded in the tree’s rings in the fall of 2022: “It’s not just a standardized timeline, where you see a straight progression of time in perfect intervals, and you only look at what is being shown to you”, Poeta says. “When you look at the tree rings as a way of showing the passing of time, you see the environment, you see all these different influences that were going on during this time”. Poeta points to different colored dots interspersed in the tree’s rings that mark the passage of time—red for a century, yellow for a half-century, and green for a decade—and make it easier to track the changes in local environmental conditions in which the tree lived for its 350 years. She also explains that scars in the tree’s body offer visitors to the Indigenous center striking metaphors of trauma and healing:

You can see scars where the tree was impacted by something, and in some places how it healed and those scars eventually disappear, but then there’s also scars that you can see following throughout the lifetime of the tree. We can use those

for talking about trauma and how sometimes you can heal from it, and sometimes you just have to learn to live with it [3].

We are similarly interested in freeing tree bodies from ideological baggage. But we begin in a different place than these Indigenous-led projects. Nick, drawing upon dendrochronology's sensitivity to the ways that tree rings record the ecological events of specific trees and a growing recognition among critical plant studies scholars that plants themselves are active and communicative organisms, recognizes trees as having an expressive capacity beyond figurative representations of human experiences. Erin's expertise in narrative theory suggests to us that, on a basic level, it makes sense to think of trees as storytellers, as tree rings literally represent a sequence of events and thus inherently possess a certain degree of narrativity. Furthermore, her understanding of narrative as a vital tool of sense-making—and in particular making sense of the self and one's own experiences—encourages us to not only consider what other cultural stories and histories we might read into a tree's rings, but how those very rings might give us an indication of *what it's like for the tree, itself*, to exist in the world. In this way, we join botanists such as Peter Wohlleben in recognizing trees as social and communicative beings, and dendrochronologist Valerie Trouet in her assertion that “different trees tell different stories” [4,5]. Our project is thus one that not only scrubs away the facade of imperial marker years such as those we see mapped onto the two UI tree bodies, but also positions trees as narrators of their own narratives.

This essay considers how dendrochronology and narrative theory might meet to illuminate the personal experience narratives of tree rings. At the basis of our conversation is a desire to tease apart tree experience and the signification that is entangled within human practices of storytelling. We flesh out *dendronarratology* or a dendrochronology–narratology nexus in five sections that oscillate between our two voices and represent the unfolding dialogue between two scholars bringing their differing disciplinary expertise to bear on tree bodies, vegetal signification, and narrative forms. First, Nick explains recent developments in dendrochronology that call critical attention to the ways in which tree rings are often used to naturalize imperial narratives and demand alternative methodologies for tree stories. Second, Erin dives into the marker years imposed on the two UI tree bodies, throwing light upon the human and vegetal stories that these dominant narratives obscure and silence. Third, Nick turns to an experiment in critical participatory action research (CPAR) to suggest an approach to tree-ring dating—*material dating*—that takes its anti-colonial cues not from imperial histories but from interests in community engagement and an awareness of individual trees as sensing and communicating agents. Fourth, Erin explains how material dating, via its foregrounding of personal experience, stands to produce a narrative that is sensitive to a particular tree's situated experience and better able to foment understanding among tree body viewers of the tree as a living and communicating organism. Finally, Nick and Erin together conclude the essay by using material dating to produce an alternative narrative for the CNR tree body and provide directions for replicating our (re)interpretation. Our localized investigation positions trees as narrators of their own stories, to read tree narratives *with* and *against* the grain [6,7].

Before we begin our interdisciplinary conversation between dendrochronology and narratology, we want to acknowledge and foreground the specific dialectical, methods, and methodological approaches to which we adhere. Throughout the essay, we favor the term “tree body” over the more common “tree cookie”. We take inspiration in doing so from the work of material feminist scholars such as Stacy Alaimo who foreground the enmeshed, *bodily* experiences of human and more-than-human beings in ecological, social, colonial, Indigenous, and climatological histories [8]. While we recognize that the cross-sections we analyze are but portions of a whole tree's body—something we address in further detail below—we use the term “body” to call attention to the tree as a living, experiencing organism. We also draw inspiration from the field of Critical Indigenous Research Methods and Indigenous scholars such as Bryan Brayboy and Linda Tuhiwai Smith; we are especially indebted to Smith's advocacy of the Indigenous projects

of representing, intervening, reframing, and creating in *Decolonizing Methodologies*, as well as her keen differentiation between *methods* and *methodologies* [9,10]. In this essay, we work towards building a novel *method* in which tree ring practitioners and narrative scholars can tell anti-colonial stories with tree rings, but carry this out in a localized, community-driven, and community-engaged context that tends towards a broader *methodology*. Our embrace of queer fun in our project of material dating—most notably in our use of paper mâché and glitter—takes direct cues from the work of queer ecologist Nicole Seymour and her argument that environmental art and activism can (and should) be pleasurable, even in a time of crisis [11,12]. Finally, given our commitment to our local community and our desire to appeal to two vastly different disciplinary fields, we lean into a conversational writing style to include as many audiences as possible in the methods and methodologies with which we work.

2. Nick: Tree-Ring Sciences

Dendrochronology, or tree-ring sciences, is an umbrella term for the study of past climatic, geophysical, chemical, cultural, social, biological, and geologic events informed by the annual growth of wood-producing organisms [13,14]. Broadly, tree rings are an incredible form of proxy data that can provide high-resolution, year-to-year (and sometimes seasonal) information that ice cores, sediment records, stalagmites, and other proxy data lack. Further, tree rings are often much more approachable for human audiences, as the rings are visually engaging, tactile, and relatable to human birthdays and life stories. At a technical and botanical level, tree rings are generally formed once annually in temperate regions—with tropical regions producing a varying number of rings a year—underneath the bark layer, which is termed the vascular cambium, producing the xylem and phloem cells used for water and sugar transportation, respectively.

Public interest in and understanding of tree rings first became evident to me in witnessing the graceful and articulate dendrochronologist and geographer Maegan Rochner coring into a tree during the summer of 2022. As a freshly minted AmeriCorps Environmental Education service member, I helped coordinate a family nature day in which Dr. Rochner was a guest speaker. As she explained what tree-ring science is and some of the applications of dendrochronology, her audience—a group of 40 people from ages 4 to 74—all had their eyes and ears glued to her. The spectators and attendees became enthralled as she twisted an increment borer into a tree, which non-invasively extracts a pencil sized snapshot of the tree's annual growth and, thus, lived experience. Comparing tree rings to a diary or journal, Rochner shared with us the ways in which each individual tree records time with its body, and how those markings can be statistically combined to co-produce a site chronology or story of a past landscape.

From that point on, I knew that if I wanted to engage the public to listen to the stories of more-than-humans, tree rings would be an utterly fantastic avenue by which to do so. The urgency with which I wanted to tell these stories was inspired by the enormity wrought by the climate crisis, the myriad of wicked problems posed by the Anthropocene, and demands for methodical yet quick action to strive for collective liberation from the inequities placed disproportionately on human and more-than-human communities and organisms from climatic change. Rochner's demonstration helped me understand tree rings as a beautiful ecosystem of more-than-human life, storytelling, climatic change, and the broader human and non-human injustices that accompany environmental violence and crises.

After her demonstration, I scurried my way up to Rochner to find out how I could do what she does. She kindly secured funding for me to travel to Yellowstone National Park for the North American Dendroecological Fieldweek—now titled Dendro Field School—that trains folks up in the methods of dendrochronology. Fast forward a month and I found myself staring into the microscope outside of Red Lodge, Wyoming, where I overheard the voices of dendrochronologists Grant Harley and Stockton Maxwell listing the marker years that we should be attuned to as we counted the trees back in time. With a graphite pencil in

hand—one dot for a decade, two dots for half a century, three dots for each century, and four dots for millennia—I dated the wood body back to the 1700s, noting the suppressed rings that marked the 1815 eruption of Mount Tambora and the 1930s Dust Bowl. I marveled at how the marker years allowed me to access a wide range of regional climatic and/or ecological events, from the hyper-local—stream levels or insect outbreaks—all the way to global volcanic events.

As I have continued to work towards my goal of using dendrochronology to illuminate injustices and promote just futures, I have become increasingly interested in the concept and idea of a marker year. I wonder: What other years and events can trees tell us about? Other tree scholars are asking a similar question, including cohorts of South American dendrochemists reconstructing pollution from tree rings [15,16], Tianna Bruno who works to understand the biophysical afterlife of chattel slavery with tree rings with a Black critical physical geographical and environmental justice lens [17], and anti-colonial dendroarchaeologists looking towards imperial timbers for provenancing histories [18]. All of these projects fall snugly or loosely under the discipline of critical physical geography and use physical geography methods and methodologies to address questions of social justice and power relations [19,20].

In a similar spirit to this work, I too look towards allied fields with which physical geography can gleefully pair. I am especially interested in mobilizing frameworks from (1) the aforementioned critical physical geography; (2) critical participatory action research practices that have a long history in involving participants in the research process [21,22]; (3) narrative theory, with its precise analysis of narratives and the agents who tell them; (4) critical plant studies and its recognition of plants as experiencing and communicating agents; and (5) the call within postcolonial studies for alternative histories and stories that are purposefully obscured by imperial records.

3. Erin: Tree Rings and Imperial Histories

When I look at the historical photograph of the UI student studying tree-ring dates, I see a familiar story of colonialism and imperialism. This story is not self-evident from the description that accompanies the photograph in the university's archive. There, we simply learn that the image contains markers that identify the tree's rings when it was 128, 284, and 450 years old, respectively. It is not until we zoom in on the image and read the annotations to these dates that the full scope of the image's ideology comes into relief. The three beats of this story—extraction, settlement, and discovery—map out in reverse the essential plot points of the colonial project and its connection to modern-day geopolitical borders and capitalist industries. As we work from the outside of the tree to its center, we chart the central role that trees like this play in literally sheltering the modern American home, the contributions that it and its peers have made to the expansion of America westward, its coming of age alongside fledgling New World colonies, and, ultimately, its birth around the moment that the Americas become known to Europeans. The tree thus stands as a microcosm of America itself, born at the time of discovery and coming into maturation and dominance along with the nation state. The student, bowing before this history and directly implicated in it ("our forefathers"), appears to stand in awe of the great heritage that she and the tree share. The tree rings help her—and the tree body's viewers—understand the long history of her nation and its emergence in the world.

The CNR tree-ring body tells a similar, albeit much more localized, story in its use of tree rings to naturalize imperial history. The imperial project is obvious enough in the early marker years. While this interpretive sign may put quotation marks around Columbus's "discovery" of America to question the validity of that claim, the years that follow illustrate a familiar story of pioneering white exploration and conquest and that narrative's recognizable characters: Minuit, Linnaeus, Lewis, and Clark. But I see the ghostly legacies of imperialism and colonialism even in this tree body's less familiar, and thus perhaps more benign, marker years. E.D. Pierce, like Columbus, was not the first person to "discover" gold in the Clearwater River. In his 1963 "Mining History of South

Central Idaho” report for the Idaho Bureau of Mines and Geology, Clyde P. Ross notes that “the difficulty with Indians was one of several that hindered early mining” in the state, and the discovery of Idaho gold was no different [23]. Ross states that Pierce was an experienced prospector who came to Idaho following the 1849 goldrush in California. “In consequence”, Ross writes, “when he wintered along the Clearwater River in 1852, he recognized the potentialities of the region”. Yet “opposition from the Indians delayed the start of prospecting”. The Idaho State Historical Society’s *Reference Series* entry on “Elias Davidson Pierce and the Founding of Pierce” tells a similar story [24]. Here, we read that Pierce “was no ordinary prospector”; “instead of searching for gold in country that was reasonably accessible, he became obsessed with the opening of a new mining region in the forbidden lands of the Nez Perce. The obstructions to entering the Clearwater country held him back eight years, but finally in 1860 he broke through the Nez Perce barrier”. It was in this year that Pierce smuggled a small expedition into a Nimípuu camp disguised as a trader. He dropped the disguise when a member of his group found gold, and “undertook to interest the Indians in allowing the whites to develop the Nez Perce mines”. Cue a gold rush and “mining excitement that soon led to establishment of Idaho Territory—and of Montana as well, for that matter”.

In addition to mines and statehood, white settlers illegally breaking through an Indigenous “barrier” also lies at the heart of the establishment of the UI by Territorial Legislature in 1889 and thus the institution’s later development of Forestry programs and “Wood Utilization” courses. In 1862, just two years after Pierce “discovered” his gold, Vermont Senator Justin Morrill successfully supported a new Act that would allow states to establish public colleges funded by the development or sale of associated federal land grants. UI is one of 52 land-grant universities established by the Morrill Act. Its location in Northern Idaho, not too far from the shores of the Snake River and its nearby mountain ridges, was no doubt partially inspired by Pierce’s lucrative adventures; as Kalen Goodluck, Tristan Ahtone, and Robert Lee note in their 2020 exposé on land-grant universities in *High Country News*, in the mid-1860s the *New York Times* bragged that this land was home to “the richest and most valuable silver mines yet known to the world” [25]. Goodluck, Ahtone, and Lee state that prior to the Morrill Act, the 90,000 acres used to establish UI was the home of multiple tribes, including the Nimípuu, the Shoshone-Bannock, the Schitsu’umsh (Coeur d’Alene), and the Te-Moak of Western Shoshone. They also state that the land, taken from these groups between 1855 and 1873, raised over USD 450,000 for UI from its initial grant and was largely made possible by an 1863 treaty—known as the “Thief Treaty” or “Steal Treaty” amongst the Nimípuu—that eventually led to armed clashes between the tribe and the U.S. Army in 1877. Their reporting puts these numbers into stark relief. Adjusted for inflation, that USD 450,000 is now worth USD 13 million; today, UI continues to benefit from over 33,000 unsold Morrill Act acres—more than one third of its original land grant, a mixture of rangeland, timberland, and farmland. More broadly, the Morrill Act’s push to make public education accessible to white, cis-male Americans justified the stealing of 11 million acres of land from approximately 200 Indigenous groups through over 160 brutally enforced treaties and land cessions. Goodluck, Ahtone, and Lee disclose that in 2019, UI earned USD 360,000 in annual revenue from its Morrill Act acres.

If we keep digging into the tree body’s marker years, we find that even the potatoes are not benign. In *Aristocrat in Burlap: A History of the Potato in Idaho*, James W. Davis writes of Henry Harmon Spalding’s journey in the area in 1836 to bring Christianity to the Nimípuu. Davis explains that Spalding quickly realized that buffalo herds were being depleted and that the Nimípuu would soon need other sources of food. “By offering to teach them how to raise agricultural crops”, Davis writes, Spalding “added an additional benefit to the white man’s religion that helped gather the Nez Perce around his Lapwai mission” ([26], p. 4). But things did not go as planned. Spalding’s horses were too tired from the arduous journey to the planting site to plow the fields, and thus the Nimípuu had to cultivate and plant the acres themselves. Davis notes that Spalding originally hoped to sow 100 acres, promising the Nimípuu a bountiful harvest; after three weeks

of back-breaking work, the Nimíipuu were only able to sow only 15 acres. Davis quotes from an 1839 letter by Marcus Whitman, a Methodist missionary who had set up camp nearby, recalling the collapse of Spalding's initial crop: "Mr. Spalding and myself were unable to eat potatoes before the last year. The first crop was almost an entire failure, and, though I had a tolerable crop, the demand was so great for seed I could afford but a few for eating" ([27], p. 5). The crop was more successful in later years, and by 1838 between 70 and 80 Nimíipuu farmers were raising as many as 100 bushels of potatoes each that they began to trade with white pioneers for clothing and goods. Indeed, the presence of potatoes in the area far outlived Spalding's: he and his family were forced to flee following the Whitman Massacre in 1847, in which a group of Cayuse men retaliated against Whitman, his wife Narcissa, and eleven other settlers for providing inadequate care to Cayuse children during a measles outbreak. The killings became a touchstone in the federal settlement of the Pacific Northwest via military action through the forced removal of Native people from their homelands to protect white settlers, and the U.S. Congress established the Oregon Territory in 1848 to protect white settlers.

In addition to the marker dates on the tree body, we can also read the tentacles of imperial and white supremacist ideologies in the origins of its donation. The Coeur d'Alene Athletic Round Table was established as a club by a group of city leaders in 1939 to support civic causes in Northern Idaho [28]. The club initially focused on supporting local high school and college athletic teams, but by 1942 had branched out to preserve the chapel at Fort Sherman, Coeur d'Alene's oldest structure. The chapel was originally built in 1880 as one of the founding buildings of Fort Coeur d'Alene—renamed in the general's honor following his retirement from the military in 1887. Impressed by the grandeur of Lake Coeur d'Alene during an 1877 tour of the area, General William Tecumseh Sherman oversaw the establishment of a military post on its shores the following year. (Building on this site was made possible, in part, by the forcible removal of the Coeur d'Alene in 1873 and their official relocation to a reservation on the southern tip of the lake forty miles away in 1885). The primary duties of soldiers stationed at the fort were to keep the peace in Northern Idaho between white settlers and the Indigenous communities attempting to retain their land and its resources and to protect the railroad and telegraph lines that were so essential to westward expansion. The Athletic Round Table held the chapel in trust and oversaw its repair, eventually donating it to the Museum of North Idaho in 1984. Instead of being returned to the Coeur d'Alene tribe, the state government ultimately used the Fort Sherman land to build North Idaho College.

These anecdotes and their brutal histories are not explicitly present in the tree body's marker years, of course. What I am doing here is a broad type of interpretation that post-colonial scholar and theorist Edward Said calls "contrapuntal reading", or a simultaneous reading of point and counterpoint. Said's primary interest was in the circulation of imperial ideologies in nineteenth- and early twentieth-century British novels and the ways in which such texts play an imperative role in constructing and perpetuating imperial ideologies and denying the experiences of colonized peoples that lie outside of imperial timelines. In practice, contrapuntal reading often amounts to reading the experiences and contexts that inform a narrative but that the text refuses to narrate; as Said states, a contrapuntal reading of the British canon involves reading "not univocally" but "with simultaneous awareness of both the metropolitan history that is narrated and of those other histories against with (and together with which) the dominating discourse acts" ([27], p. 51). Contrapuntal reading thus requires "extending our reading of the texts to include what was once forcibly excluded", or considering how a text reveals "a structure of reference and attitude, a web of affiliations, connections, decisions, and collaborations" that often manifest as "leaving a set of ghostly notations" ([27], p. 125).

Said's famous example of contrapuntal reading focuses on Jane Austen's *Mansfield Park*. This novel, with its traditional marriage plot, British setting, and explicit concern with morality, appears to have nothing much to do with colonization. Yet Said points out that the novel's plot and morals are dependent upon an imperial cultural and environmental

context that is aggressively suppressed in the novel's narration. Fanny's marriage—her very life in *Mansfield Park*—is funded by her uncle's plantation in Antigua. Said thus reads the novel's plot, characters, and British setting as made possible by an unarticulated counterpoint of slavery and exploitation.

I have undertaken a similar exercise to Said with these two tree bodies. Instead of focusing on the dominant narrative of discovery, settlement, and capital gains in each tree's rings, I have read an alternative narrative of theft, failure, deception, and the obsessive control of land and resources by white settlers that wholly depends upon the silencing and removal of Indigenous and other non-white groups. Furthermore, just as Said connects the very *form* of the British realist novel to colonial and white supremacist ideologies—in the novel's tendency to foreground ideas of home, nation, and the cultural superiority of the author's (and narrator's and protagonist's) sociohistorical conditions—a contrapuntal reading of the tree bodies illuminates the ways in which imperial plots are “naturalized” via the steady progress of vegetal signification that, in its annual growth, mimics an ever-expanding accumulation of wealth. The narrative mapped onto the tree bodies makes clear that trees are not simply a source of capital in the American West: they are also a material source of the teleological mythology of pioneering development. The dendrochronologists who author the marker years on these tree bodies employ tree rings to legitimize and naturalize narratives of barbarous exploitation and the extraction of humans via tree bodies, thus conscripting trees into telling a specific story of race, nation, and capital.

But we can push even further in our contrapuntal project. Unlike Said, who worked with the realist novels of the British empire, the “texts” with which Nick and I work are not fully anthropomorphic. Instead of reading beyond a novel to include what was once forcibly excluded, our reinterpretation of tree bodies demands that we recognize the very authorship of the text itself, or the idea that any narrative mapped onto a tree's rings takes its cues from the tree's own agency as a living, experiencing being and its capacity to express that experience via its own distinct form of signification. The emerging field of critical plant studies emphasizes this idea, building on scholarship from various disciplines that have become increasingly sensitive to the expressive capacities of vegetal life. As Monica Gagliano, John C. Ryan, and Patrícia Vieira, editors of *The Language of Plants*, explain in their introduction to the book, the field of critical plant studies not only examines the *extrinsic* language that humans use to represent plants but also the *intrinsic* language of plants themselves, or the “modes of expressiveness proper to plants” ([29], p. xx). The editors note that the intrinsic language of plants is a capacious category, including “the language of biochemistry—plant hormones, biochemical signaling, pressure cues, and so on the multisensorial expressions of plants—their visual articulations their olfactory bouquets or their aural enunciations, revealed in the emergent field of plant bioacoustics” ([29], p. xviii). They also argue that listening to the intrinsic language of plants stands to radically shift the extrinsic language we use to talk about plants: “The language of plants has implications for ethics, politics, and sustainability. Rather than a mechanism of hierarchical separation, as it has been historically constructed, language, cast in a fresh light, allows new narratives to emerge through the complex interdependencies between plants and humans” ([29], p. xx).

In their discussion of the promise of new narratives, Gagliano, Ryan, and Vieira articulate our central concern in this essay: that new stories more sensitive to the personal experiences of plants will reshape our understanding of plant lives and histories. Michael Marder, pointing out that plants are not, as humans often assume them to be, “mute living beings, existing without the possibility of self-expression”, also hits this drum: “Plants not only silently tell us something (indeed, a great deal) about themselves and the world, but also that they tell stories, rendering witness accounts about life and death, light and darkness, middles, beginnings, and ends” ([30], p. 189). Yet even within this scholarship, there exists a hesitancy to understand plants as capable of self-expression. We perhaps see this most clearly in Vieira's essay “Phytographia: Literature as Plant Writing”, in which she recasts Gayatri Spivak's famous question about the erasure of the stories of lower-class women of color from official imperial histories [31,32]. For Vieira, it makes good sense to ask

“can the plant speak?” in addition to “Can the Subaltern Speak?”, as Spivak does. And yet she notes some discomfort with this leap of logic: “The analogy between the plant and the subaltern is clearly not a seamless one. After all, the subaltern is a human being endowed with an intelligible form of language and a worldview of his or her own” ([31], p. 217). Instead of reading the “intelligible form of language” and a personal “worldview” of an individual plant, her interest instead lies in the “novels of the jungle” of the Amazon that “broke new ground in their portrayal of an active, often sentient forest that, more than any of the human protagonists, is the main character of the texts” ([31], p. 227). The starting point of her analysis is thus an extrinsic language of plants informed by intrinsic language, not the intrinsic language itself. Our contrapuntal approach to tree rings leads us to a different set of questions. We ask not only how and why human narrators extrinsically map imperial language onto tree rings to validate an imperial worldview at the cost of other cultural histories, but also how such narratives obscure the intrinsic language of the tree itself. Indeed, what stories might trees tell if we foreground their authorship?

4. Nick: Biological and Community Marker Years

Erin’s contrapuntal reading of our two case studies—and especially the CNR tree body, to which we have direct, physical access—inspired me to look at them anew, with an eye toward tree narratives that are hidden and obscured by the current marker years. I now approached the CNR cross-section in a much more intimate manner, intent on foregrounding the more-than-human personal experiences that the rings of this individual tree record. While I gingerly counted with Erin sitting cross-legged next to me, I saw some familiar biological marker years that pointed to events not accounted for in the original narrative, such as the 1815/1816 Mount Tambora eruption, which occurred 7174 miles (about 11,545 km) away from this tree’s location. And I noticed how other events that are featured in the tree body’s original narrative, such as the denotation of Columbus’s “discovery” of the Americas, had no growth impact on the tree. This event occurred 3093 miles (about 4977 km) away from the tree’s location—over half the distance of the Tambora event—yet had literally no connection to the personal experience of the tree.

Other dates began to jump out at me as I attuned myself to the experiences represented by the shape and orientation of the tree’s rings. The off-center location of the tree’s pith tells me that this Ponderosa Pine was growing on a slight slope when the sapling took root around 1450. The tree then grew up rapidly until 1471 when growth started to slow down, perhaps due to climate shifts, biological impacts, or any number of surrounding Indigenous–environmental relations. We cannot ever know the specifics of this decrease looking at only this one body; to do so, we would have to find trees in the same location that date back to those years and develop a larger chronology of the area, looking carefully for rings that record similar shifts in climate, provide evidence of fire scars, or feature other microanatomical markings that suggest other events. Returning my attention to the CNR tree body, I took note of a chunk of suppressed micro rings from 1543 to 1546. I pondered what those years looked like in the region, to be so harsh that the tree grew so little. How did this impact the surrounding Indigenous communities and more-than-human organisms in the area? Finally, I noted the last year of the tree’s growth and thus the end of its story.

Beyond these slight anomalies, the rings from this tree are rather consistent, with minimal variation that could, alas, be used to build a climatological study to reconstruct the subtle and/or drastic changes in drought or precipitation in the region. In other words, this tree’s rings largely tell a narrative of a very long and slightly banal life. Perhaps this is what makes it such an ideal candidate for people to map hegemonic and imperial histories onto the sequence of events it records; it is a relatively blank slate that, in its story of linear progress and steady growth, lends itself well to the imperial history that Erin unpacks. Indeed, the relative banality of this tree led me to try to flip my exercise on its head. I asked myself: what if we created a blank slate, lacking *any* marker years, and then turned the historicizing over to our local community? What kind of narrative would that produce?

I acted on this “a-ha” moment during the Spring of 2024 when I made a papier-mâché tree-ring body with holes for my head and legs that could be set up or even worn at public-facing events (Figure 3). The creation of the tree-ring body was inspired by my personal climate activism-oriented drag performance art and linked directly to queer scholar Nicole Seymour’s writing on “green queens” who create space for alternative “bad environmentalisms”² and her analysis of glitter as a tool used by activists to productively disrupt the cis-heteropatriarchy [11,12]. While the papier-mâché tree body was originally created for drag performances, I took the tree body out of drag to four locations: an art showcase hosted by the Idaho Center for Disability and Human Development, our town’s Saturday Farmer’s Market, a graduate-level education course, and a public dissertation proposal defense. In each of these locations, I engaged in critical participatory action research (CPAR) by prompting community members to write *any* important year to them on a sticky note, indicating what happened in that moment, and place it on the cross-section of any location or ring of their choosing.



Figure 3. Picture of Nick wearing a papier-mâché tree art project at the Moscow, Idaho Farmers Market while collecting community marker years in the Spring of 2024.

In total, I recorded 84 responses, which Erin and I then transcribed and coded. We immediately noted a clear pattern in the data that divided the responses into two categories based upon the personal relevance to the observer. When the events related to a person’s birthday, major move, or marriage, we coded them as “personal experience”. When events were more general (i.e., sports teams winning big games like the World Series or World Cup, the St. Louis flood, or the attacks of 11 September 2001), we coded them as “not direct personal experiences”. While there is a possibility that the event indirectly involved the observer or they could have attended the large-scale events, we saw these to be less directly connected to the observer’s personal narrative. Of all the events recorded by community members, an overwhelming majority ($n = 66$; 78.6%) were directly and obviously related to personal experiences (not related; $n = 18$; 21.4%).

I expected there to be a skew towards more personal experiences, yet the size of the skew surprised me. I was also surprised by the date range that came from the pool of participants, which started only as early as 1955 (69 years before the present year of 2024; event of “I was born!”) (Figure 4). The community chronology also extended into the future year of 2030 (six years ahead of the present; event of “Universal Peace and Environmental Justice envelops the World”) and had a median year of 2013 (only 11 years prior to the present year; event of “Zane [participant’s child] was born”). There was a distinct lack of the U.S. nation-building dates that were so abundant in the public-facing cross-sections in the archive and CNR cross sections: 1492 and 1776, for example.

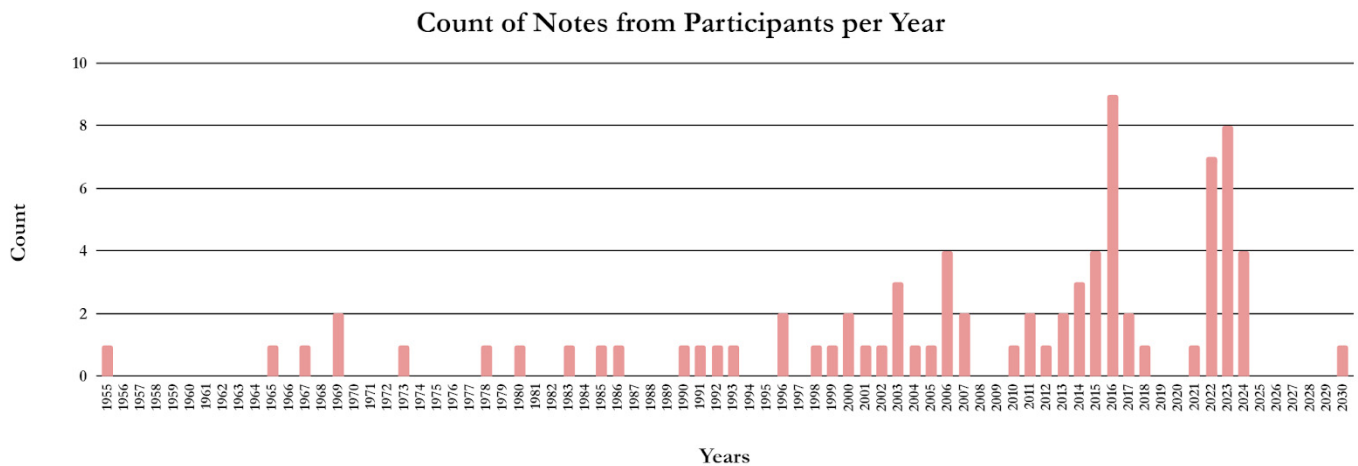


Figure 4. Bar chart denoting the number of community events placed on the papier-mâché tree body for each year, with present year for the study being 2024.

These results prompted Erin and I to think more deeply about the intensely localized and personal nature of so many of the community-generated marker years, the relationship of those years to our present moment, and their connection to the lived, personal experiences of the participants. They also prompted us to realize the total lack of *any* overlap of both years or events between the community-generated marker years and those mapped onto the tree bodies of our two case studies, and the almost total absence of colonial rhetoric in the community results. Indeed, we saw more evidence of Indigenous ways of knowing than colonial histories in the community-generated marker years: “2022: Started Learning ‘ōlelo Hawai‘i”. This, in turn, encouraged us to literally and figuratively think about the personal experiences of the tree bodies, asking ourselves two key questions: How and why is the timeline set by the form of the tree co-opted by some human storytellers to reproduce hegemonic and colonial histories? And how could we rewrite this narrative to correspond to the personal, lived experiences that the tree rings actually record?

5. Erin: Trees and Personal Experience Narratives

The idea that the CPAR exercise results overwhelmingly favor personal experiences makes good sense to me as a narrative theorist. Cognitive narrative theorists such as Monika Fludernik and David Herman, building in part on earlier work in the linguistic analyses of storytelling, take as foundational the idea that narrative is a human tool by which we make sense of our experiences in the world. This argument is especially indebted to William Labov’s studies of personal experience narratives (PENs) and his arguments that oral stories of previous first-hand experience are a key means of “recapitulating past experience” in which the speaker “becomes deeply involved in rehearsing or even reliving events” ([33], p. 20; [34], p. 354). Donald Braid states this even more plainly: PENs are “coherent, followable accounts of perceived past experiences”, and the narrator of such a story will select, interpret, and organize events “into a way that transforms the sequence

into a coherent and meaningful whole” ([33], p. 8). The act of telling PENs is thus a vital tool of sense-making.

Labov argues that, to achieve this feat of sense-making, PENs tend to have two sets of clauses. The first are referential, in that they relate to what the story is about (characters, events, setting, etc.). The second are evaluative, in that they indicate *why* the narrator is telling the story. As Labov states, evaluative clauses are “the means used by the narrator to indicate the point of the narrative, its *raison d’être*: why it was told and what the narrator is getting at” ([34], p. 366). He continues, “evaluative devices say to us: this was terrifying, dangerous, weird, wild, crazy; or amusing, hilarious, wonderful; more generally, that it was strange, uncommon, or unusual—that is, worth reporting. It was not ordinary, plain, humdrum, everyday, or run-of-the-mill” ([34], p. 370–371). Labov identifies a number of types of evaluation, including external evaluation (a narrator tells a listener directly what the point of the story is), embedded evaluation (the narrator articulates the sentiment as it occurred to them in the moment of the event they are narrating), evaluative action (the narrator tells what people did rather than what they said), and evaluation by suspense of action (the narrator stops the action to call attention to a particular point in the story) [34]. But in all instances, he links evaluation to sense-making and, in particular, the making sense of self and the self’s experiences.

Scholars from numerous disciplines make similar arguments in their declaration that narrative is fundamental to self-identity. H. Porter Abbott opens the *Cambridge Introduction to Narrative* with this claim, noting that infants first demonstrate narrative capability in their third or fourth year, right around the time that they start putting nouns and verbs together and, not coincidentally, when they begin to retain memories [35]. “In other words”, he writes, “we do not have any mental record of who we are until narrative is present as a kind of armature, giving shape to that record” ([35], p. 3). Similarly, social psychologist Jerome Bruner argues that humans “enter into meaning” by making narrative sense of the world around them, and that this meaning-making via narrative requires us to prioritize goal-directed action, sequential order, sensitivity to what is normal and abnormal, and the perspective of a narrator ([36], p. 77). According to such arguments, narrative is not only a primary tool for making sense of the world—for ordering events in a meaningful sequence or helping to evaluate why certain events are remarkable—but also essential to our understanding of our own identities as experiencing and communicating agents.

Indeed, the results of the CPAR exercise encourage me to ask how we might date one of our sample tree bodies using personal experience as a metric. To be clear, I am not referring to the personal experiences of the human observers of the tree body here, but to *the personal experience of the tree itself*. After all, trees, like humans, are experiencing and communicating agents. We understand tree rings as an intelligible form of language that signifies a specific arboreal worldview—one that, as Marder suggests it might, tells us a great deal, via a witness account, about a specific agent and its relationship to the world [30]. In my earlier work, I suggested that tree rings express a minimal degree of narrativity, in that they are literal inscriptions of sequences of events. (To make this argument, I draw upon Gérard Genette’s definition of narrative as “the representation of a real or fictitious event or series of events by language” ([37], p. 1). Yet even I was shy about ascribing too much agency to the tree. I noted that while tree rings clearly communicate that something happened and “express temporal duration specific to a nonhuman experience of the word”, they are unable to signify other hallmarks of narrativity such as “focalization, representation of the consciousness of characters, metalepsis, metanarration, heteroglossia, etc”. ([38], p. 72). I understood the event-sequencing of tree rings as a “singular property of narrative [that], in turn, is a material affordance that human storytellers can capitalize upon as they compose narratives—a form of signification that affords human storytellers a basic temporal blueprint for a narrative” ([38], p. 73). Hence, perhaps, why I, too, tended to be more interested in the extrinsic language that human writers use to represent these sequences, such as that we find in “The Good Oak” chapter of Aldo Leopold’s *Sand County Almanac* [39].

My conversations with Nick have encouraged me to revise this stance, in that I now appreciate how much more complicated and detailed tree rings are than I previously understood. For example, I now recognize that tree rings *do* contain heteroglossia in the form of insect galleries and fungal decay, as well ellipsis via “locally absent” or missing rings in which a tree responds to extremely difficult growing seasons by not adding a visible growth ring. Nick has helped me resee tree rings as representing a personal experience narrative of a specific organism, and thus signifying a specific worldview. Nick has also helped me see that trees, like humans, can narrate different stories at different moments in their life; the cross-section of a tree’s body at ground level will differ from one near the tree’s crown, and thus call attention to a different set of events. Of course, some key differences exist between human and tree PENs. Unlike human PENs, tree rings do not recapitulate past events but are a recording of events in the moment that they occur. To phrase this slightly differently, tree PENs are always present-tense narratives, in that they are narrated by an experiencing agent that records events *as they occur*. Tree PENs also do not feature evaluative clauses in the same way that human PENs do. They do not distinguish via evaluative commentary what is strange from what is “normal”; instead, they represent experiences that a human interpreter evaluates for significance. Hence, of course, the dendrochronologist’s frustration with “complacent” rings that represent—to return to Labov’s PEN language—the “ordinary, plain, humdrum, everyday, or run-of-the-mill” growth of the tree. It is the marker years, such as the registration of volcanic eruptions in the discoloration of some rings, that denote “strange, uncommon, or unusual” experiences.

In this sense, Nick and I agree with Gagliano, Ryan, and Viera when they state that “the intrinsic language of plants that humans are able to grasp remains beholden to our hermeneutic efforts” ([31], p. xx). It makes sense to me to recognize trees as narrators of their own PENs while also understanding that tree PENs are co-authored by trees and their human interpreters. In other words, trees “speak” rings in their own distinct language while a human author must work with a tree’s rings to co-create a story. Yet we also understand traditional tree-body dating, such as that which we see in our three case studies, as relying too heavily on human histories—and indeed, the histories of *some* humans—and thus neglecting the personal experience of the tree. After all, why would a Ponderosa Pine growing in Northern Idaho have anything to say about the arrival of Europeans in Massachusetts, the purchasing of Manhattan, or the hiring of a new university dean? We understand, in other words, that the PENs encoded in tree rings rely on human co-authors to render them in a language recognizable to us. But we also see a long tradition of human authors using tree rings to naturalize a specific narrative of imperial dominance and control that often has nothing to do with the tree itself. Our collaborations, and the results of the CPAR exercise, encourage us to begin again and attune ourselves to the personal experience that we find in a tree body’s rings. This approach, which uses narratological insights about what narratives are and the ways that they function in the world and dendrochronological techniques to interpret the events that a tree narrates in its rings, calls upon a dating system that foregrounds the personal experience of the tree, rather than events disconnected from that experience. By doing so, we argue, we can not only develop a greater appreciation for the story the tree is telling, but also illuminate the human *and* vegetal narratives that traditional dating methods silence.

6. Nick and Erin: Personal Tree Narratives

We conclude this essay by looking forward to additional research. Our plans include running additional studies that add various template timelines to the papier-mâché tree art project, moving inward from the present year to some past year in the central pith, to see how such a blueprint changes the type and texture of the marker years that community members generate. Yet our larger hope is that our other scholars pick upon our material dating method and methodology to tell tree narratives more attuned to the personal experiences of individual trees. Such an expansion of our project will not only weaken the hold of imperial histories on our ecosocial imaginaries—tree rings will no longer be co-

opted to play ventriloquist dummy to hegemonic marker years to naturalize the brutalities of empire—but also help develop sensitivity to the alternative narratives tree rings *actually* tell in their own language. We argue that CPAR, narrative theory, critical plant studies, and dendrochronology can combine to provide scholars with a simple set of tools and practices by which to critically rewrite the exclusionary histories of many tree ring cross-sections by reading with and against the grain.

Here is a diagram and question set that spells out our method and methodology (Figure 5):



Figure 5. Diagram for generating intertwined community and ecological marker years for a tree ring cross-section.

1. What is the Orientation of the Tree?
 - Where is the tree body from? On what Indigenous homelands did the tree grow?
 - How old is the tree?
 - What year was it cut down?
 - How and why was it cut down?
2. What Narrative Do the Current Dates Tell?
 - Is the tree already dated with descriptions for each year? If so, what patterns can you detect in these marker years? Whose histories do they favor?
3. What Narrative Might New Dates Tell?
 - Can you discern any marks that denote ecological experiences that do not feature in the current marker years? What experiences do these marks evoke, both in terms of the personal experiences of the tree or alternative human histories that do not appear in the narrative of the original marker years?
 - What novel dates do community members suggest? (Collect these dates by asking community members to attach dated sticky notes to the tree body).
4. Who Best Tells this New Narrative?
 - Can you restate the marker years to foreground personal experience?

When we apply this question set to the CNR tree body, we generate the alternative narrative below. We have made a conscious decision to articulate marker years in the present tense via an autodiegetic (“first tree”) narrator, using “I” statements to emphasize the organism’s personal experiences and the fact that these dates are directly encoded in the language of the tree. Moreover, we have added new years to the cross-section and/or rearticulated the significance of the original marker years to correlate them to the experience of the tree and removed others that appear in the original narrative. By providing this alternative narrative, we hope we can provide the viewer with a radically different experience when reading the tree’s rings.

Introductory Statement:

Hello! I am a Ponderosa Pine tree that originally grew in Idaho. My cross-section was donated to the University of Idaho by the Coeur d’Alene Athletic Club in 1945. You can read the story of my life and community by starting in my center and working outwards towards my bark.

Marker Years and Descriptions:

First half of the 1400s: I am born! I take root on a gently leaning slope.

1450: Here you can see the very center of this part of my life—what is often called the “pith”.

1450s: I grow a lot as a young sapling.

1471: My growth spurt really slows down as I turn 21.

1523: After 73 years of growth, I have already lived longer than the average human.

1543–1546: Woah! These four years have been especially tough. You can see how I struggle to grow in my micro-rings.

1706: After 256 years of growth, I have already outlived the longest-living terrestrial animal—the Aldabra giant tortoise—and I am not even over the hill, so to speak!

1753: A European man named Linnaeus introduces a form of plant identification that has now come to dominate plant sciences, known as binomial nomenclature. According to his system, my name is *Pinus ponderosa*, but I am known in English as the Ponderosa Pine. (The name “Ponderosa” comes from a Scottish botanist and plant explorer named David Douglas, who first proposed it to refer to specimens he collected near the Spokane River in 1827. Ponderosa is from the Latin “*ponderosus*” meaning large, heavy, or weighty). But the Nimíipuu people—my immediate neighbors—have referred to me as “lá’qa” for much longer.

1805: Lewis and Clark are the first Europeans to set foot in what is now Idaho. I never meet them, but their expedition will bring a lot of changes to the people and organisms with whom I live.

1815–1816: Mount Tambora erupts! I do not grow very much in these years because the volcanic activity produces a year without summer. It is hard to believe that something that happens so far away (7174 miles) can make things so difficult for me.

1837: Reverend Spalding is said to have first planted potatoes in Lapwai, Idaho and “barely got his seed back”. This crop might fail, but soon my broader environment is home to many more agricultural crops than it used to be.

1860: Captain Pierce finds gold on the Clearwater River. Even more people are moving into my neighborhood now.

1876: The beginning of federal forestry; Congress authorizes the appointment of the forest forestry agent. Trees like me are now a matter of national policy.

1883: In the area, mining operations began and will continue long after I am around. The mining activities are so deeply unregulated that they pollute the lands and waters in the region and lead to the establishment of one of the country’s largest superfund sites (locations polluted with hazardous materials).

1890: I am now living in the newly admitted state of Idaho.

1909: Professor Charles Shattuck becomes the first professor of forestry at the University of Idaho (UI), and with this, the College of Forestry at the UI becomes the second oldest (by a few months) forestry school in the American West. Professor Shattuck brings more than

three hundred varieties of trees to start the first college arboretum west of the Mississippi River. Imagine: students dedicating their time to studying trees like me!

1910: Igniting from a large electrical storm, three million acres just east and southeast of me burn in what will later be called the “Great Fire of 1910”. While so much of the region was ravaged, burning provides for the regrowth and regeneration of our forest ecosystems.

1938: First Summer Camp for forestry students is offered at UI. Students spend an entire summer outside studying trees like me!

1945: Smokey the Bear is created as a symbol for the nationwide forest fire prevention campaign of the state foresters and the U.S. Forest Service. The fire suppression policies instituted from this campaign lead to the proliferation of equating “fire = bad”. Only decades later would suppression policies be understood to harm ecosystems, as healthy cycles of fire are needed in many of the western forests like mine.

1945: My life has come to an end, and now you can view part of my life experience here.

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Notes

- ¹ There are a myriad of similar examples peppered in nature centers, universities, and even amusement parks across the United States, including the Millenium Tree at Disneyland’s California Adventure, the tree ring cross-section on display at the University of Arizona Laboratory of Tree-Ring Research, and that inside the atrium of the College of STEM at Eastern Kentucky University, to name but a few.
- ² Seymour defines bad environmentalism as “environmental thought that employs dissident, often-denigrated affects and sensibilities to reflect critically on both our current moment and mainstream environmental art, activism, and discourse” (*Bad Environmentalism* 6).

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