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2023

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UNIVERSITY OF CALIFORNIA,  
IRVINE

The Axe and the Lens:  
Photography and the Big Trees of the American West  
1860-1920

DISSERTATION

submitted in partial satisfaction of the requirements  
for the degree of

DOCTOR OF PHILOSOPHY

in Visual Studies

by

Molly Katharine Thrailkill

Dissertation Committee:  
Professor Cécile Whiting, Chair  
Associate Professor James Nisbet  
Professor Edward Dimendberg

2023



# DEDICATION

For

Tree #191  
in Humboldt Redwoods State Park

Dedicated in support of the  
Save the Redwoods League  
on November 16, 2023

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## ACKNOWLEDGEMENTS

I would like to offer my profound thanks to my advisor, Professor Cécile Whiting. This project would not have been possible without your encouragement and thoughtful guidance throughout the ups and downs of the dissertation process. Thank you for keeping me on track through it all, and for helping to grow the seed of an idea about trees and photography into this final dissertation.

I am also indebted to my dissertation readers, Associate Professor James Nisbet and Professor Edward Dimendberg, and prospectus committee members Associate Professor Aglaya Glebova and Professor Miles Coolidge. This project was deeply informed by my preliminary examinations on the history and theory of photography with Associate Professor Glebova, and on American landscape art with Professor Whiting, and has its origins in the 2019 Getty Consortium Seminar, led by Professor Dimendberg, on the theme of Monumentality. Thank you all for your support, comments, and for helping me to build the critical foundations of this project.

Finally, I am incredibly grateful for my family, friends, and Visual Studies colleagues who have shown me so much love, support, and unending patience. To my wonderful parents, who have been with me every step of the way during this program and who tirelessly proofread my final drafts, thank you for everything.

## VITA

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## ABSTRACT OF THE DISSERTATION

The Axe and the Lens:

Photography and the Big Trees of the American West 1860-1920

by

Molly Katharine Thrailkill

Doctor of Philosophy in Visual Studies

University of California, Irvine, 2023

Professor Cécile Whiting, Chair

The massive trees of the American West — sequoia, redwood, Douglas fir, Sitka spruce, and cedar trees— bear a particular and critical relationship to photography. This project argues that the relationship of photography to the Big Trees is anything but passive; that is, photography benefits from, effects, and perpetuates violent human interference with these trees. In turn, these interventions allow for the tree to be successfully represented within the photographic frame. While these operations are most explicit within the context of logging in the Pacific Northwest, even under the mantle of preservation, trees and groves are frequently altered to drive visitation, and to foster extraordinary pictorial environments for tourist snapshots.

This project's historical span, the mid-nineteenth century through the first decades of the twentieth, marked a period of momentous historic transition; the rapid industrialization of the American landscape in the late nineteenth and early twentieth century in turn transformed early American visual and political culture. This period, which saw substantial efforts to profit from and effectively conquer the American forests,



also sustained several key synchronicities and seemingly contradictory encounters with the tree, not limited to the confrontation between the Puritanical drive to civilize and clear the American wilderness against Romantic attitudes that found moral and religious value in the same.

This dissertation project stands in between the camera's lens and the Big Tree as subject and explores the rich contradictions that emerge from the historical confrontation between mechanical reproduction and the botanical. The first chapter charts the formation of a highly specific portrait type that developed out of logging operations in the Pacific Northwest at the turn of the century. The second chapter of this project examines the significant material afterlife of felled trees, from the Big Trees that were transported East to the World's Fairs, to the forests that were cleared to produce the very networks of rail transportation that allowed for the movement of these trees. The third chapter concerns photography's role in the preservation of California's Big Trees.

Even if this project is primarily concerned with photographic production over a roughly sixty-year span from the 1860s through the beginning of the nineteenth century, there is a particular timeliness and contemporary relevance to these images. The same challenges of visual representation of the Big Trees exist today, even if they are now met with new computer design technologies and digital media that push beyond the possibilities of the two-dimensional photographic frame.

## FOREWORD

### *Some Notes on Fire*

Shortly before advancing to candidacy in June of 2020, I relocated from Southern California and the Irvine campus to family in the Bay Area and then, ultimately, to Lake Tahoe. It was a move intended to provide some relief from the restrictive early days of the pandemic by escaping to the outdoors. Three and half years later, the move has become permanent, and this dissertation project has undeniably shifted to reflect my beloved forested home. Throughout the process of completing this project, I have also witnessed the devastating effects of wildfire across the state of California and specifically within the Sierra Nevada. Stuningly, nearly all the living sequoias discussed in this project have been under active threat from wildfire at some point in the past three years.

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Paradise weighs heavy on the minds of those who live in rural Northern California. The Camp Fire overtook the town of Paradise, California in the early morning on November 8, 2018. 85 people perished in the fire, which destroyed nearly all the town and many neighboring communities. As the Caldor Fire advanced towards Tahoe from its origins in Pollock Pines in August 2021, the neighbors in my community on the western shore of Lake Tahoe and I met in the middle of our block to discuss how and when we should leave. The West Shore is served only by Highway 89 and pinned between the lake and the mighty Sierra Nevada; the only way out is south or north along the highway. And the fire was coming from the south.

It began raining ash on August 17, and by the next day, heavy smoke descended on the Tahoe Basin and the air quality deteriorated to a shocking 700 on the air quality index, well beyond the purported index limit of 500. I conducted a video walkthrough of my house for insurance purposes and started to assess what valuables I should take with me. After a week of sustained poor air quality at and often above 700 AQI, I packed my car with my cats and a few sentimental possessions and made my way north out of danger. A few days later, those that hadn't already left my neighborhood were subject to a mandatory evacuation order as the fire crested Echo Summit, a mere five miles away from the city of South Lake Tahoe. Luckily, the fire was contained before it could penetrate much further into the Tahoe Basin, but not before it burned some 220,000 acres of forest.

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The thought strikes while writing about the material transformation of trees: the thick, choking, noxious miasma is itself a material transformation of the forest; the trees are up in smoke; I am inhaling the charred remains of trees.

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On September 9, 2021, just a few days after the evacuation order was lifted and I returned home, the KNP Complex Fire erupted in and around Sequoia National Park. As the fire burned within a mile of the Giant Forest, firefighters and park rangers wrapped the General Sherman sequoia in a fire-resistant blanket. General Sherman and the Giant Forest were spared, but the fire burned 88,000 acres.

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On July 7, 2022, shortly after completing the first draft of my third chapter on the subject of California's National Parks, wildfire broke out along the Washburn Trail, threatening the Mariposa Grove in Yosemite National Park. The Galen Clark tree was charred as the fire lapped at the edges of the Grove, frighteningly close to the Grizzly Giant and the remains of the Wawona Tunnel tree.

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On September 6, 2022, Sacramento broke its record for all-time highest temperature at 116 degrees. That day I was driving across the state back to Tahoe from Humboldt, where I had driven through the Chandelier and Shrine Trees, trekked redwood groves in the cool coastal fog, and hiked the Tall Trees trail down to the bank of Tom McDonald Creek and peered into the forbidden forest beyond, in which stands Hyperion, the tallest tree in the world. On my way home, I stopped at the Osprey Café in Willow Creek for coffee. Behind me in line were firefighters on the Six Rivers Lightning Complex Fire. The fire had been burning for a month by the time I drove past. At the gas station across the street, a teal Hotshot truck was gassing up. The temperature climbed into the triple digits as I made my way towards Redding, passing first through Whiskeytown. In 2018, the Carr Fire took seven lives and 230,000 acres, destroying the towns around Whiskeytown Lake. Further down Highway 44 I skirted along the northern edge of the Dixie Fire, the largest non-complex wildfire in California, which tore through nearly a

million acres in 2021. Back in Tahoe, the sun set in a fiery blaze as the Mosquito Fire, which started just hours before, began to churn smoke into the atmosphere.

Over the next few days, the Mosquito Fire blanketed the Tahoe Basin in dense haze, eerily reminiscent of the Caldor Fire just a year prior. The AQI rose to the top of the index yet again, and the fire threatened California's northernmost grove of giant sequoias, the isolated Placer County Big Trees Grove. As the fire marched westward towards Tahoe, I canceled my upcoming trip to Mariposa Grove, fearful that we would face yet another evacuation and not wanting to be caught away from home and my cats. The fire was stopped four miles from Placer County Big Trees Grove, and a fortuitous rainstorm allowed firefighters to contain the blaze. 77,000 acres were burned.

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In August of 2023, I was able to finally visit Mariposa Grove in Yosemite and the Giant Forest in Sequoia. It was a summer blessedly free from fire in the Sierra, yet the burn scars from the Washburn and the KNP Complex Fires were fresh, black, and unavoidable.

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On October 21, 2023, as this dissertation project neared completion, I made a day trip from Tahoe to the Placer County Big Trees Grove. The typical route to the grove was closed due to fire damage from the Mosquito Fire, so I took winding back roads that led through the burn scar of the 2014 King Fire, which burned 97,000 acres. It was a cold fall in the Sierra, and the yellowing leaves of the young oak trees pushing up through the

wreckage of the burn signaled that some regeneration was happening there. As I approached the grove of sequoias, dense smoke billowed out of a prescribed burn taking place just across the road. The sudden smell of smoke was alarming, and I had to remind myself that it represented proactive measures against wildfire and not imminent danger. The grove itself was happily upwind; looking up through the canopies of the half dozen giant sequoias who quietly reside there, the sky was a brilliant blue.

## INTRODUCTION

The massive trees of the American West — sequoia, redwood, Douglas fir, Sitka spruce, and cedar trees — bear a particular and critical relationship to photography. Not only do they serve as perennial and highly popular photographic subjects, but their continued existence today is directly due to photography’s influence. Carleton Watkins’s photographs of the Mariposa Grove sequoias taken in the 1860s, including General Sherman’s northern rival, the Grizzly Giant, offered early visual proof of the existence of these giants at a moment where other pictorial representations failed to do so, largely owing to doubts about the veracity of painted depictions. Furthermore, the photographs taken by Watkins prompted early conservation efforts that led directly to the protection of the Mariposa Grove and Yosemite Valley as one of the country’s first National Parks.

Ultimately, this project argues that the relationship of photography to the Big Trees is anything but passive; that is, photography benefits from, effects, and perpetuates violent human interference with these trees.<sup>1</sup> In turn, these interventions allow for the tree to be successfully represented within the photographic frame. While these operations are most explicit within the context of logging in the Pacific Northwest, even under the mantle of preservation, trees and groves are frequently altered to drive visitation, and to foster extraordinary pictorial environments for tourist snapshots. This project derives its title — *The Axe and the Lens* — from the substantial similarities between these two devices. As the tree is sawed into a lateral slice or stump, it is readily comparable to both

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<sup>1</sup> Throughout this project, I use the term “Big Trees,” which is commonly used to describe California’s giant sequoias and coastal redwoods. This project also contends with other impressively sized species such as Douglas fir and cedar. I extend the use of “Big Trees” to superlative trees that are distinguished by their height, girth, or other remarkable attributes.

the flattening of the picture plane in photography (where the surface of the image provides a matrix of information) as well as the truncating properties of the photographic frame.

This project's historical span, the mid-nineteenth century through the first decades of the twentieth, marked a period of momentous historic transition; the rapid industrialization of the American landscape in the late nineteenth and early twentieth century in turn transformed early American visual and political culture.<sup>2</sup> This period, which saw substantial efforts to profit from and effectively conquer the American forests, also sustained several key synchronicities and seemingly contradictory encounters with the tree, not limited to the confrontation between the Puritanical drive to civilize and clear the American wilderness against Romantic attitudes that found moral and religious value in the same. The 1860s marked the end of the Civil War, which had wrought total destruction upon the Southern landscape and forests, the completion of the transcontinental railroad, and the incorporation and mechanization of the timber industry. Simultaneously, the dissemination of Watkins's photographs of the massive sequoias marked the beginning of public awareness of the existence of Big Trees, and the first efforts to create National Parks and protect Yosemite Valley. Some fifty years later, the 1910s saw the formation of the Save the Redwoods League, the beginning of nation-wide fears of a coming timber famine, and the height of Darius Kinsey's photographic career in the bustling logging camps of the Pacific Northwest. Each of these events had a momentous impact that led to the survival or total destruction of American forests, Big Trees, and old growth groves.

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<sup>2</sup> See Alan Trachtenberg, *The Incorporation of America: Culture and Society in the Gilded Age* (New York: Hill and Wang, 1991).



Nineteenth-century logging industrialists and early environmental preservationists alike were fascinated by the remarkable longevity and scale of the Big Trees, which made them ready historical subjects and objects of display. The subjecthood and life span of the tree is fundamental to this project; trees are not merely ubiquitous objects, but, critically, living entities. At the same time, there is a fundamental disjunction between the life spans of human beings and those of living trees, the latter of which may exist for many thousands of years. This positions surviving trees as compelling historical witnesses, from the trees at Gettysburg who bear the imprint of war through the shrapnel physically embedded in their trunks, to the trees of Mount Vernon planted during George Washington's lifetime, which are carefully maintained by the horticultural staff due to their historical link to the nation's first president. Trees also serve as natural boundary markers and cartographic landmarks due to their longevity. As such, these trees become symbols of resilience and survival that form a tangible botanical bridge with the past.

While a tree may appear to be wholly massive and immovable, it is in fact a collection of constitutive parts from branches, leaves, trunks to more elaborate root systems and clonal colonies. These parts may all move, shift, spread, and grow in varied fashion in space. The movements of this immensely complex living structure is perhaps most easily perceived by the human subject over a timescale of years and decades, or after events which register immediate change or destruction. Our most rational or quantified understanding of a tree — its age in years — is derived not from study of the vertical whole but from the lateral slice and the stump. The accretion of annual rings that denote a tree's age directly correlates the size of the tree to its longevity. Therefore, photographs of stumps not only document the present status of the tree, but also offer a

potent representation of the past. These images may also project forward, as the clearing of land for agricultural purposes by felling trees (and transforming forests into fields of stumps) points towards the nation's progressive and cultivated future.

This dissertation project stands in between the camera's lens and the Big Tree as subject and explores the rich contradictions that emerge from the historical confrontation between mechanical reproduction and the botanical. Three theoretical and seemingly contradictory pairings underpin the three chapters in this paper: *stillness* versus *flow*, *wonderment* versus *exploitation*, and *ubiquity* versus *singularity*. *Stillness* can be seen in the process of logging, which renders the tree inert, but also occurs with photography itself, where the photographic still (like the tree slice or stump) allows for a certain conquering of temporality, making the grand scale of arboreal time perceptible. *Flow* can indicate the transformation of the tree from living entity to commodity, from tree to lumber, as well as the physical movement of timber from forest to market. Like *stillness*, *flow* also pertains to the photographic transformation from referent to image. As chapter two argues, a sense of *wonderment* and the experience of sublimity is rarely separated from *exploitation* and the extraction of use-value. Finally, in chapter three, I will examine how *ubiquity* is contrasted with *singularity*, as those trees that are logged for timber are perceived as part of America's limitless and multitudinous timber resources, whereas celebrated Big Trees such as the General Sherman sequoia are protected and named in honor of Civil War heroes and American politicians. However, as is discussed in this project's second chapter, personification did not always protect against a tree's violent demise, and many singular, exceptional trees met the same fate as the vast groves clearcut for timber.

At its core, this is a project on photography that is oriented around a particular subject matter — the Big Trees of the American West. As such, it is positioned within and between the history of photography and the study of American landscape art. Alongside discussion of photographs produced by professional practitioners, this study also engages popular visual and print culture through an analysis of postcards, illustrated guidebooks, World’s Fair pamphlets, and magazines such as *Scientific American* and the Southern Pacific Railroad’s *Sunset Magazine*. By pulling from this rich field of visual material, I aim to generate a broadly historical analysis of trees and photography. The scope of this project also entails discussion of related fields such as histories of technology and forestry in the United States, as well as economic histories of logging in the Pacific Northwest, the industrial history of the railway, and New Western history.

My first chapter, *Into the Undercut*, charts the formation of a highly specific portrait type that developed out of logging operations in the Pacific Northwest at the turn of the century. In a typical example of one of these images, a massive tree is depicted at close range, its trunk nearly filling the frame. Halfway up the trunk is a gaping cut, an open mouth that swallows an entire figure, lying on his side, head propped up on his elbow. On either side of the cut, two men are posed on boards wedged into the side of the tree, their axes thrust into the bark. A long crosscut saw rests against the springboard supporting one man, its length evidence of the sheer girth of the tree. At the base of the tree, we see large chunks of wood, the viscera of the tree, scattered on the ground.

The loggers (and, in many cases, their fellow logging camp workers and families) who are depicted in these images are proudly positioned within the product of their labor,

the massive undercut void that at once reveals the interior of the tree while also signaling its imminent felling. There is a striking temporal anticipation to these images, where the photograph intervenes between the irreversibly fatal cuts made into the tree and its ultimate felling; in these photographs, the tree is memorialized in its final moments as a vertical entity.

We may interpret these types of images as a bit of logging bravado or machismo, a demonstration of the logger's confidence in his work and faith that the tree will fall backwards as intended and not forward so as to crush the figures positioned inside the tree. But there is also a recognition in these photographs that the Big Trees are perhaps most photographically compelling and awe inspiring when standing.<sup>3</sup> These images therefore perform similarly to instances of photojournalism that capture the moment just before certain death, what Barbie Zelizer terms "about-to-die images." These images, by virtue of the mechanism of photographic stilling, both postpone the moment of death and may even introduce some doubt as to the ultimate fatality of the event, even as they depict circumstances that are not survivable.<sup>4</sup> That is, at the same time that they suspend the action of death indefinitely (or here, felling), they also prompt the viewer to confront and imagine the inevitable.

Additionally, these images form a double portrait, where the postures of the photograph's human subjects demonstrate a disjunction of scale, and of the need for a human figure to demonstrate the sheer magnitude of the tree. Further, the undercut reveals the diagrammatic rings that signify the age of the tree, such that the act of lying

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<sup>3</sup> One notable exception is perhaps the Fallen Monarch tree, which is discussed in my third chapter.

<sup>4</sup> Barbie Zelizer, *About to Die: How News Images Move the Public* (New York: Oxford University Press, 2010), 72.

across the core of the tree effectively inserts the logger into the tree's history. To put it another way, these individuals pose their bodies in such a way as to physically bridge an inhumanly long span of time, to touch both the pre-historical moment of the tree's origin and the sudden, violent historical moment of the tree's felling, all at once.

This chapter focuses on two of the primary practitioners within this genre, the photographer Darius Kinsey (1869-1945) and his brother Clark Kinsey (1877-1956), and argues that the undercut portrait type produced by the Kinsey's and their contemporaries played a critical role in turn-of-the-century American conceptions of landscape. Further, this chapter delves into the expression of seemingly contradictory attitudes within these photographs. These images seem to celebrate the industry and physical achievement of logging, while at the same time expressing wonder at the existence of giant coastal Douglas fir and cedar trees. With multiple portraits taken in the same undercut, and different trees captured with a substantially similar framing, the body of Kinsey images generate an uncanny archive of a uniform yet superlative forest. These images communicate the deeply held American desire to cultivate a seemingly unending wilderness of timber resources, while also offering a narrative of environmental control that counterposes a traumatic photographic history of blasted Civil War landscapes.

The second chapter of this project, *Timber, Trestles, and Trains*, examines the significant material afterlife of felled trees, from the Big Trees that were transported East to the World's Fairs, to the forests that were cleared to produce the very networks of rail transportation that allowed for the movement of these trees. These two material transformations — one from living tree into a wondrous and singular object of display, and the other from the organic structure of the forest into the railroad's repetitive and

orderly system of wooden cross ties and trestles — are connected in this chapter for their reliance on one another and, critically, on photography.

In this chapter, I argue that the defining woodenness of the nascent American railway system is supported by a general belief in photography's visual veracity, which provides credible evidence of the suitability and soundness of the railway's timber infrastructure. Images of giant trees loaded onto train cars and borne over seemingly precarious wooden trestles both inspire confidence in the integrity of these structures while also advertising the industrial capabilities and potential of both the lumber companies and railroads. The woodenness of the American railroad allowed for the rapid and relatively inexpensive expansion of railway networks, but also required abundant material for the maintenance of what would typically be temporary forms ideally replaced by durable steel. The American railroads were therefore one of the major consumers of timber at the start of the twentieth century, and heavily motivated to expand into previously unlogged areas to sustain themselves.

The railroads were also instrumental in enabling the display of California's giant sequoias and redwoods at the 1893 Columbian Exposition. The Chicago World's Fair not only celebrated these trees as natural resources of the West Coast states (alongside elaborate displays of stacked oranges and other agricultural products), but again boasted the industrial progress that enabled their transportation. The tree segments, slices, and stumps on display at Chicago served as synecdoches for the lost whole, and as such were ready photographic subjects that were fully containable within the photographic frame.

While the 1893 fair was preceded by other notable displays of Big Trees, such as the Mother of the Forest sequoia (felled in what is now Calaveras Big Trees State Park in

California) that was shown at the Crystal Palace in New York and London from 1856-1866, or the infamous “California Hoax,” which was displayed (and panned) at the 1876 Centennial International Exposition in Philadelphia, the Chicago Exposition was distinguished by the abundance of photography that accompanied the regional exhibits. The remains of the General Noble sequoia, proudly erected in the center of the rotunda in the Government Building, was not only extensively photographed before it was felled, but its transportation East to the fair was also documented, presenting irrefutable proof of its existence as well as the capability of the railroad.<sup>5</sup>

In this chapter, I examine the work of three contemporaneous photographers practicing at the turn of the century: C.C. Curtis (1862-1955), who was commissioned to document the felling of the General Noble tree; A.W. Ericson (1848-1927), a celebrated photographer in Humboldt County who also supplied images of massive coastal redwoods to the 1893 fair; and F. Jay (Frank Jay) Haynes (1853-1921), who served as the official photographer for the Northern Pacific Railroad.

My third chapter, *Big Tree Tourism*, concerns photography’s role in the preservation of California’s Big Trees. While Watkins’s early images of Grizzly Giant were instrumental to the preservation of the Mariposa Grove, other contemporaneous images of the Mother of the Forest sequoia being skinned for exhibition at the Crystal Palace were equally persuasive for preservationists. The latter example was specifically referenced by Senator John Conness in his seminal 1864 speech in support of the bill to

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<sup>5</sup> The physical remains of the tree would seem to provide the best evidence of the existence of the Big Trees; however, in order to transport such trees across massive distances, they would first be broken up into smaller sections. This process of dismantling and then reconstructing the tree opened up the possibility of arboreal hoaxes, which could be easily constructed by adding additional material to the sections and constructing a fabricated tree that was larger than life.

protect Yosemite Valley and the Mariposa Grove.

All three chapters chart the movement of the tree, both imaginatively and physically, out of the forest. The first chapter looks at the local system of photographic commerce of logger portraits taken in the woods and making their way into family albums, while at the same time, the newly felled timber completed the first leg of its journey as commodity product from the woods to the sawmill. The second chapter tracks the extraordinary journey of Big Tree stumps and slices across the country and the formation of the rail networks that facilitated this transport just as it was itself constituted of timber products.

The third chapter examines the postcards, stereographs, and magazines that flattened and transformed the Big Trees into miniatures before dispersing them into American living rooms across the country. These materials and images were not merely botanical entertainment, but also served as a persuasive call for visitors to venture West into the very groves themselves, and to create their own tourist snapshot images, to send out their own postcards, and perpetuate this cycle of arboreal movement. This chapter analyzes the more specific spatial negotiations of these trees, as tourists passed within and around tunnel trees, and the calvary, serving as a proto-park ranger force, posed on horseback on top of massive fallen trees.

Further, this chapter explores the roots of the preservation movement in the nineteenth century, and in particular examines the formation of the National Park system, the uncanny relationship between the famed naturalist John Muir and the Southern Pacific Railroad, and the temporal and spatial proximity of logging operations to the first National Parks. Within the parks themselves, named and landmark trees were made



historical and imprinted with moral value, as guidebooks and other publications extolled their great age and scale through comparison with key events in Western history, and compared them to the engineering marvels of the Industrial Age (most frequently, the Statue of Liberty and other Manhattan buildings). This not only safeguarded them against felling, but primed them for easy use as corporate logos and branding. The Wawona Tunnel tree in particular was frequently adopted for these purposes, as it was a major point of attraction for the Mariposa Grove after it was tunneled out in 1881 until it eventually fell in 1969. The allure of tunnel trees continues today, as seen in the example of the highly popular Chandelier Tree, one of the few remaining drive-through trees. As a coastal redwood, it is some 50 feet higher than the Wawona Tree was, but its diameter is 10 feet narrower. Even so, it is wide enough to admit the continual procession of cars that eagerly pass through it each day.

Even if this project is primarily concerned with photographic production over a roughly sixty-year span from the 1860s through the beginning of the nineteenth century, there is a particular timeliness and contemporary relevance to these images. The same challenges of visual representation of the Big Trees exist today, even if they are now met with new computer design technologies and digital media that push beyond the possibilities of the two-dimensional photographic frame.

As I will argue, even these recent, seemingly cutting-edge technologies derive from nineteenth century visual culture. For instance, early approaches to rendering trees digitally utilized rules-based techniques, simulating — and virtually “growing” — the underlying geometry of trunks and branches. While the algorithms that generate these

renderings are complex (beginning with the invention of L-systems by Aristid Lindenmayer in 1968), the parameters which dictate their function require the same attentiveness to the structure of a tree as is found in John Ruskin's discussion of "good" and "bad" tree-drawing by Albrecht Dürer, Claude Lorrain, John Constable, and others in *Modern Painters* (1843).<sup>6</sup> Like pre-photographic paintings and drawings of the Big Trees that were dismissed as mere "humbug," ultimately, these types of computer models tended to yield unrealistically perfect simulations that lacked biological fidelity and were succeeded by more successful models.<sup>7</sup>

A second, more recent method for rendering trees addressed this concern by beginning instead with a photograph of a tree, which allowed for the development of a digital model that already bore the specific traces of the tree's natural existence. It is significant to note that within many of these studies, the benchmark for verism is specifically photographic, such that good models look like or might even replace the photographs on which they are based.<sup>8</sup> This reveals the predominance of photography over the past 200 some years as an imaging technology, and also an enduring faith in its mimetic relationship to the natural world.

Finally, this project considers natural objects that continue to exist today, whether as standing trees, or for those that were not spared the axe, as stumps and fallen logs. While it is breathtaking to look up at the canopy of the same tree that was captured by Watkins some 160 years ago, or to stand next to the shattered remains of a tunnel tree that once let countless carriages and autos pass within it, the Big Trees are under constant and

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<sup>6</sup> John Ruskin, *Modern Painters* (New York: Knopf, 1987).

<sup>7</sup> Ilya Shlyakhter et al., "Reconstructing 3D Tree Models from Instrumented Photographs," *IEEE Computer Graphics and Applications* 21, no. 3 (June 2001): 53–61.

<sup>8</sup> Shlyakhter, "Reconstructing 3D Tree Models from Instrumented Photographs."

active threat from wildfire, climate change, bark beetle infestation, and human development. A renewed urgency to protect the Big Trees from these threats has not only led to extensive preservation efforts, but also a florescence of contemporary novels, nonfiction, journalism and photographic projects.<sup>9</sup> The themes that govern this project (*stillness versus flow, wonderment versus exploitation, and ubiquity versus singularity*) are expressed in many of these publications, as well as an open question that was perhaps first posed in 1859 by the botanist Harland Coultas: what may be learned from a tree?<sup>10</sup>

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<sup>9</sup> For short selection of these publications see:  
Elizabeth Bernstein, “Why a Tree Is the Friend We Need Right Now,” *Wall Street Journal*, June 12, 2021, sec. Life, <https://www.wsj.com/articles/why-a-tree-is-the-friend-we-need-right-now-11623513601>.

Ferris Jabr, “The Social Life of Forests,” *The New York Times*, December 3, 2020, sec. Magazine, <https://www.nytimes.com/interactive/2020/12/02/magazine/tree-communication-mycorrhiza.html>.

Josh MacIvor-Andersen and Bill McKibben, *Rooted: The Best New Arboreal Nonfiction* (Outpost19, 2017).

Richard Powers, *The Overstory*, (New York London: W.W. Norton & Company, 2019).

Suzanne W. Simard, *Finding the Mother Tree: Discovering the Wisdom of the Forest* (New York: Alfred A. Knopf, 2021).

Max Whittaker, “A Photographer Works to the Sound of Falling Trees,” *The New York Times*, September 10, 2020, sec. Times Insider, <https://www.nytimes.com/2020/09/10/insider/big-basin-fire-photography.html>.

Peter Wohlleben, *The Hidden Life of Trees: What They Feel, How They Communicate: Discoveries from a Secret World* (Vancouver: Greystone Books, 2016).

<sup>10</sup> Harland Coultas, *What May Be Learned From a Tree* (Philadelphia: C. Sherman & Son, Printers, 1859).

## CHAPTER ONE

### *Into the Undercut*

Photography's ability to reduce, flatten, and still time encounters a worthy subject in the mammoth trees of the American West, rendering these giants into pocketable and transportable images. In particular, the encounter between photography and the soon-to-be-felled tree allows for a new imagistic potential, where the tree is not only the subject of the image, but also the center of a unique and irreversibly fatal event that through photography becomes multiple and atemporal. Both photography and logging operate as analogous human interventions that demystify trees (make them knowable) and conquer them (make them commodifiable). These activities also make these trees historical, ushering them into the nascent history of the nation and subjecting them to a distinctly American imperative to tame and control the wilderness.

This chapter considers the complicated and often contradictory perspectives towards trees that are expressed in logging photographs created at the end of the nineteenth through the first decades of the twentieth century. Through the examination of a body of images by key practitioners such as Darius Kinsey and his brother Clark, I seek to explore how visual expressions of wonderment and awe for the massive trees of the American West are paradoxically entangled with their exploitation and destruction. This chapter charts a series of critical developments in the American conception of forests and landscape leading up to the emergence of this new genre of logging photographs. Attitudes towards trees in America's Industrial Age both built on prior nineteenth century conceptions of the necessity of cultivating the American landscape, while at the same

time shifting away from ideas of a vast and unregulated forest towards the tree as a singular, visual (and chiefly photographic) subject.

It is important to note that these logging photographs coexist with those created without overt destructive intentions towards the tree. Here there is perhaps a distinction to be made between photographs of felled or soon-to-be-felled trees that evidence a wide-scale transformation of the landscape, and those of distinctive (often named) trees that establish a visual sense of territory or serve as silent witnesses to historical events, such as Carleton Watkins's early images of sequoias. In all cases, I propose that photography is not merely a neutral documentary force. Rather, photography facilitates the very process of transformation, instrumentalization, and multiplication of the tree.

To better understand the milieu in which these photographs were produced and circulated beginning at the end of the nineteenth century first requires a brief articulation of the visual and cultural history of American forests leading up to that point. The American conception of wilderness in the nineteenth century was still deeply inflected by colonial attitudes, which often characterized the wild as a "howling" wasteland and the province of the devil.<sup>11</sup> Clearing the vast American forests and cultivating the landscape unlocked a substantial economic potential, while also enacting a righteous imperative towards progress. To the enterprising Western settler, the tree was not a picturesque symbol of natural beauty but rather a foe to be vanquished in the pursuit of a habitable and improved landscape.

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<sup>11</sup> Claire Perry, "The Big Trees," in *The Great American Hall of Wonders: Art, Science, and Invention in the Nineteenth Century* (Washington, D.C.: Smithsonian American Art Museum, 2011), 165.

See also Roderick Nash, *Wilderness and the American Mind*, Fifth Edition (New Haven: Yale University Press, 2014).

The rapid transformation of the American territory was well documented in nineteenth century landscape painting and illustration. The eradication of America's "virgin" forests to allow for agriculture and habitation ramped up significantly in the first decades of the nineteenth century. Preparing the land for farming was a significant motivation for clearcutting; by the 1840s, wood was the predominant energy source for heat and light, and an indispensable building material, which further encouraged the decimation of the forest.<sup>12</sup> The most potent visual symbols of this dramatic environmental shift are perhaps the figure of the woodsman and the product of his axe, the stump. In his essay "The Ravages of the Axe," from 1979, Nicolai Cikovsky Jr. cautions against assuming a symbolic intent for all images of stumps in American art (and importantly distinguishes between cut and blasted stumps — "the one produced by human action and the one produced by natural process"), yet notes that clearing the land by hand felling trees with an axe was often too time-consuming and impractical for the individual settler.<sup>13</sup> A more efficient technique was girdling, in which a ring of bark was stripped from the tree, effectively killing it. The tree would then drop its leaves and allow light to pass through to the ground below, facilitating the planting of crops. Per Cikovsky, the "meaning of land clearing was usually conveyed by the tree stump because its image was more intelligible and compelling and richer in symbolism than the girdled tree."<sup>14</sup> In Andrew W. Melrose's *Westward the Star of Empire Takes Its Way—Near Council Bluffs, Iowa*, 1867, a field of felled (not girdled) trees is juxtaposed against the modern infrastructure of the railroad; the urgency of progress and the recent date of this landscape

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<sup>12</sup> Nicolai Cikovsky Jr., "The Ravages of the Axe': The Meaning of the Tree Stump in Nineteenth-Century American Art," *The Art Bulletin* 61, no. 4 (December 1979): 611.

<sup>13</sup> Cikovsky Jr., "The Ravages of the Axe," 611.

<sup>14</sup> Cikovsky Jr., "The Ravages of the Axe," 613.

transformation is rhymed by the temporality of the train speeding down the tracks towards the viewer.

The raw depiction of a newly cleared field of stumps contrasts with the more pastoral landscapes of Thomas Cole, which transformed the wilderness into a cultivated and more rational Garden.<sup>15</sup> While Cole's poetry and writing largely decry the scourge of the axe, paintings such *The Arcadian or Pastoral State*, c. 1833 from *The Course of Empire* series depict a pastoral ideal that is neither fully wild nor fully developed, representing Cole's conception of a harmonious balance between human and nature. This Edenic landscape notably includes a cut stump at the far right of the scene, distinguishing the "Savage" and "Pastoral" states of Cole's cycle, along with other indications of "taming" the landscape, such as grazing pastures and open pathways. In her 1976 essay "The Double-Edged Axe," Barbara Novak identifies these complicated positions towards the natural world, noting that the alteration of the landscape in service of progress also constitutes a threat to the nation's pre-history: "national identity is constructed and threatened by the double-edged symbol of progress, the axe that destroys and builds, builds and destroys. ... Progress towards America's future literally undercut its past."<sup>16</sup>

Cikovsky notes that the iconographic presence of the stump in American art wanes following the Civil War. The Civil War stands as an important inflection point here not only in its destructive impact on the Southern landscape, but also in the advent of photography as a documentary medium. Historian Lisa M. Brady notes that the destruction of the landscape due to the war was on the scale of natural disaster; further, it

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<sup>15</sup> Barbara Novak, "The Double-Edged Axe," *Art in America*, February 1976, 45.

<sup>16</sup> Novak, "The Double-Edged Axe," 45.

was widely documented in photographs and published as woodcut reproductions.<sup>17</sup> While the image of wasted battlefields may seem to be very different from the untouched virgin forests being avidly cleared by nineteenth century Americans, they were perceived in much the same way: as a type of wild and uncontrolled wilderness.<sup>18</sup> As Brady articulates, the ruinous effects of war on the landscape were not unanticipated:

The material exigencies of nature certainly were foremost in military strategists' minds throughout the war, but three of the most successful Union operations ... focused not on overcoming nature as object, but on destroying the enemy's primary relationship with the natural world. During these campaigns, Federal forces attacked the foundations of southern agriculture, exposed the tenuous nature of southerners' control over the landscape, and exploited a deep-seated American fear of wilderness.<sup>19</sup>

The toll of these battles on trees in particular was well noted, particularly in photographs. The woods at Culp's Hill were heavily scarred during the battle of Gettysburg in July of 1863, and documented in stereographs taken by Mathew Brady a few weeks after the fighting. As Maura Lyons notes, "the destruction of the woods on Culp's Hill became a major part of narratives of the battle [of Gettysburg]," and Brady's stereographs presented a powerful correspondence between wounded men and trees.<sup>20</sup> While one stereograph makes this connection manifest with the inclusion of one of Brady's assistants posed as a wounded soldier, another focuses on the blasted stump itself as a central "arboreal casualty."<sup>21</sup>

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<sup>17</sup> Lisa M. Brady, "The Wilderness of War: Nature and Strategy in the American Civil War," *Environmental History* 10, no. 3 (2005): 422.

<sup>18</sup> Brady, "The Wilderness of War," 426.

<sup>19</sup> Brady, "The Wilderness of War," 423.

<sup>20</sup> Maura Lyons, "An Embodied Landscape: Wounded Trees at Gettysburg," *American Art* 26, no. 3 (2012): 45.

<sup>21</sup> Lyons, "An Embodied Landscape," 51.



George N. Barnard, another prominent Civil War photographer, documented General Sherman's march from Tennessee to the sea in 1864-65 and published his "views" in album format in 1866. In "The 'Hell Hole' New Hope Church, GA," blasted and broken trees as well as a descriptive title communicate the destruction of war solely through the impact on the landscape. "Hell Hole" and Brady's stereographs of Culp's Hill stand in opposition to images such as Timothy O'Sullivan's shocking "Harvest of Death" 1863, which foregrounds the fallen dead in explicit detail, instead inviting the viewer to infer the bodily toll by meditation on wounded trees. Barnard's view of "Hell Hole" also presents a type of arboreal portrait that perhaps exists outside of Cikovsky's binary of the blasted or cut stump — the tree that is broken in two, no longer upright but not yet a stump, caught in the process of its fatal fall.

Against this cultural history of arboreal destruction in America's forests, both in service of a flourishing nation and as the disastrous result of war, the emergence of a body of logging photographs at the end of the nineteenth century in the West presents a productive return to efforts to control and cultivate the landscape. The clearing of private property for agricultural purposes turned to wide scale lumber production in the first half of the nineteenth century. Yet anxiety over the continued availability of America's timber resources in conjunction with population booms and a heavy reliance on timber resources prompted concern among some of a possible timber famine; the "Report of the Commissioner of Agriculture for the Year 1865" estimated that between 1850 and 1860 nearly thirty million acres had been cleared.<sup>22</sup> Enthusiasm for logging the timber riches of

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<sup>22</sup> Donald J. Pisani, "Forests and Conservation, 1865-1890," *The Journal of American History* 72, no. 2 (1985): 343.

the Pacific Northwest came as the Midwest forests were largely depleted after less than a century of logging.<sup>23</sup>

It is also important to note that the trees encountered in the West were unlike any encountered by the white American settler up to that point. Early illustrations of massive sequoias and redwoods were typically written off as “humbug” by those back East, particularly in the Barnum and Bailey era.<sup>24</sup> Claire Perry notes that while the discovery of these trees initially generated disbelief, the instantiation of photography offered a newly credible image: “Here at last, in a scientific medium produced by a machine that could not exaggerate or lie, was evidence that the great forest realms of California truly existed. ... [Ralph Waldo] Emerson declared that [Carleton] Watkins’s photographs ‘made the tree possible.’”<sup>25</sup> The force of this declaration — that photography makes the big tree possible — cannot be understated. Watkins’s photographs are perhaps the most direct visual predecessor of Darius Kinsey’s images, and not only introduced key strategies for portraying the massive trees in a photographic medium, but also forged a new attitude of wonderment towards the tree.<sup>26</sup>

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<sup>23</sup> “After less than a century of lumbering, fire, and settlement, only about 8,000,000,000 feet of white and Norway pine remain [in the Lake States], largely in Minnesota. In 1918 the reported cut of white pine in the Lake States exceeded a billion feet. Another decade will see the practical exhaustion of their commercial supplies of white pine. United States Forest Service, *Timber Depletion, Lumber Prices, Lumber Exports, and Concentration of Timber Ownership: Report on Senate Resolution 311. June 1, 1920* (U.S. Government Printing Office, 1928), 18.

<sup>24</sup> The Barnum and Bailey “Greatest Show on Earth” was one of a number of traveling circus acts in the United States that were popular in the nineteenth and early twentieth centuries. These shows combined elements of performance and animal menageries with infamous “freak shows.” P.T. Barnum in particular was notorious for promoting dupes and hoaxes in these latter exhibitions.

<sup>25</sup> Perry, “The Big Trees,” 176.

<sup>26</sup> It is important to note that the creation of Yosemite Valley and the Mariposa Grove as a protected park in 1864 was partly inspired by Watkins’s photographs, which were

Watkins's photographs demonstrate that what had failed in prior images was perhaps the desire to convey scale and impress the viewer through pictorial convention rather than the strict indexicality of photography. Most notable is the desire to convey the tree as a whole and unobstructed subject, necessitating a completely cleared foreground. In order to depict the tree using linear perspective and without excessive foreshortening, the vantage point for the viewer is a great distance from the base of the tree, entailing a certain amount of pictorial (and unrealistic) deforestation to complete the illusion.<sup>27</sup> This strategy is seen in nearly all of Darius Kinsey's images, which avoid (or perhaps are physically constrained from) depicting the tree as a whole.

Two noteworthy photographs by Watkins, *Sequoia Gigantea, Grizzly Giant, Mariposa Grove*, 1861 and *Section, Grizzly Giant, Mariposa Grove*, 1861, portray what was at the time thought to be "not only the oldest living tree, but the oldest living thing on earth."<sup>28</sup> In the first of these Watkins images, it can be difficult at first to see the human subjects nestled at the foot of this giant. Watkins has positioned his camera and canted his lens just enough to capture the giant from root to canopy. The print is itself massive for its time, 20 ½ by 15 inches, and with a depth of detail that allows one to peer closely at these tiny figures. At the same time, however, to do so precludes one from taking in the full image of the tree; it is seemingly impossible to picture both the human and the arboreal subject at once, to synchronize the action of telescoping out and

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displayed in the East at the start of the Civil War. The signing into legislation of the Yosemite Valley Grant Act, Senate Bill 203, on June 30, 1864, also bears historical synchronicity with the bloody Battle of the Wilderness, fought between May 5–7, 1864. Perry, "The Big Trees," 178-79.

<sup>27</sup> Perry, "The Big Trees," 164.

<sup>28</sup> Elizabeth Hutchinson, "They Might Be Giants: Carleton Watkins, Galen Clark, and the Big Tree," *October* 109 (2004): 48.

zooming in. Critically, the whole of the photographic depiction of the Grizzly Giant is generated not through a singular image, but rather through a series of different views.

In the second of these images, Watkins has titled his photograph “Section.”<sup>29</sup> Here, we may clearly see the figure of the outdoorsman Galen Clark, but the rest of the Grizzly Giant has been cropped out. We are given a flattened idea of the tree’s girth, but must infer its great height. While this would seem to invite accusations of humbug, as the tree’s precise height becomes incalculable and is therefore a matter of imagination, the juxtaposition of the human figure for scale lends critical evidentiary value. It is important to note that while Watkins’s *Section* presents an imagistic “stump” in this closely cropped view, it functions as a synecdoche rather than as a relic; that is, his title and the existence of additional views of the Grizzly Giant let us know that *Section* is a mere portion of a whole tree, a tree that remains standing and is alive. Watkins’s photographs are notable in that they mark the first historical opportunity to document these extraordinary trees photographically, yet they do not preclude the possibility of future images, as is seen with the Kinsey photographs of soon-to-be-felled trees.

The act of felling poses a clear violence and finality for the tree, and as demonstrated, serves as a key expression of the long-lasting American interest in cultivating and conquering the woods, and therefore exerting some measure of control over nature. The material product of felling, the stump, effectively presents a cross section of time, the accretion of rings that tell the tale of the tree’s growth outward in time — a diachronic timeline rendered horizontally. This time-keeping aspect of the stump acquires particular importance when considering the age of a tree, especially

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<sup>29</sup> Hutchinson, “They Might Be Giants,” 52.

massive trees of a superlative age. While Galen Clark could only guess at the age of the Grizzly Giant, broadly designating it as the world's oldest living tree, the stump gives objective clarity. As opposed to Cikovsky's blasted stump, this diagrammatic view is best revealed as the product of human action, where the agent of toppling is the clean slice of the crosscut saw. But perhaps most significantly, the stump allows the tree to definitively enter into human history: to be given a birth and death date, and to be retroactively designated as a living witness.

It is also through the stump that a tree's sheer magnitude is immediately visible and perhaps more easily apprehensible. The diameter of the stump not only allows for the tree's magnitude to be decisively quantified, but it is also more easily contained within the photographic frame. If Watkins's subject, while more convincingly conveyed in photographs than other media, still resists visual containment, photographs of felling mark a double conquering of the tree; it can then be contained in its totality within the frame at the scale of the human.

The stump is foregrounded in the work of the photographer Darius Kinsey and his younger brothers Clark and Clarence, who operated several decades after Watkins. With the Kinseys, we see a shift in photographic mode from Watkins's romantic, largely picturesque encounter with the giant trees of the West to the Kinseys' more documentary (often, studio) style that is closely tied to the logging industry. This shift is also marked by another key transformation: that is, the linguistic transformation from tree to lumber, from living entity to material commodity. While Watkins trained his lens on the immensity of the living tree and the natural subject, the Kinseys became deeply

imbricated in the economy and technological evolutions of the Pacific Northwest logging camps.

Darius, the most well-known of the Kinsey brothers, moved with his family from Missouri to Snoqualmie, Washington in 1889 at the age of 20. It was in Washington that he first encountered a camera, and he began his photographic career that first year.<sup>30</sup> At the time, photography was just becoming more accessible to the amateur hobbyist, and Darius was able to take basic camera lessons in Seattle with his first 6 ½ by 8 ½ inch camera.<sup>31</sup> He began working nearly immediately as a traveling photographer, and his earliest surviving negatives, from 1890 and 1891, document a log bursting out of a chute into a mill pond and the Snoqualmie Mill Company, evidencing an interest in the local logging industry from the very beginning of his career. Darius soon established a robust portrait photography business, building a sky-lit photography studio at his home in Sedro-Woolley and producing prodigious newspaper advertisements to promote his portrait services, available everyday but Sunday.<sup>32</sup>

Darius was known locally as the “Sedro-Woolley photographer” and developed a highly specialized operation that catered specifically to the loggers and their desire to be documented. His body of work provides fascinating insight into the industrial operations of the some 250 logging firms operating in Washington at the turn of the century, historicizing these men and the product of their labor. In partnership with his wife

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<sup>30</sup> Dave Bohn and Rodolfo Petschek, *Kinsey, Photographer: A Half Century of Negatives by Darius and Tabitha May Kinsey, with Contributions by Son and Daughter, Darius, Jr. and Dorothea* (New York: Black Dog & Leventhal Publishers, 1995), 299.

<sup>31</sup> Ralph W. Andrews, “*This Was Logging!*” *Selected Photographs of Darius Kinsey* (West Chester, Pennsylvania: Schiffer Publishing Co., 1984), 18.

<sup>32</sup> Bohn and Petschek, *Kinsey, Photographer*, 85-89.

Tabitha, he became a primary documentarian of the felling of the mammoth cedar and Douglas fir trees of the Pacific Northwest:

...Kinsey stayed with the timber and became unquestionably the best recorder of logs and lumber in action. He has been criticized as not getting the kind of picture of machinery and lumber firms wanted. This can be excused on one basis. Darius Kinsey never felt he was working for anybody but the people in the picture—the loggers themselves.<sup>33</sup>

Part of Darius's success was his formation of a potent and repeatable style of arboreal portraiture that was much desired by the loggers. While Darius captured a wide variety of images documenting the logging camps and the activity of logging — from logging camp mess halls to teams of oxen pulling logs out of the forest to stump houses and other curiosities — perhaps the most enduring image format created by Kinsey were his undercut portraits, in which loggers posed in a large slash made in the trunk of the tree that guides the path of the trunk as it falls.

In a classic example of this portrait type from 1906, captioned “Felling a Fir Tree 51 Feet in Circumference, Measured Four Feet from the Ground. From the Undercut to the Ground Is Ten Feet, Indicating Early-Day Logging,” one man is nestled inside of the tree while two other men are posed on springboards driven into the sides of the tree, their axes and crosscut saw prominently displayed. The caption of this image gives key measurements to consider: the tree, a fir, is a mighty fifty-one feet in circumference, and the men are posed ten feet up from the ground. These statistics not only describe the massive girth of the tree, but also give the dimensions of the stump that may be anticipated in this image.

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<sup>33</sup> Andrews, *This Was Logging!* 15-17.

These images signal the inconceivable scale of the tree, often with multiple figures posed, remarkably, inside of the tree. They also evidence and make material the loggers' labor, exalting the incredible feat of having generated this cut with only hand tools: the large cross-cut saws that required two operators, and hand axes.<sup>34</sup> These images also document the result of a rather slow process. The first loggers to attempt to drop these trees were met with a steep challenge and often inadequate equipment, which meant the act of felling a single tree could take weeks. In order to fell the giant trees without breaking them necessitated careful planning and calculation.<sup>35</sup> The temporal dimension of these images is significant as the photograph intervenes in the moment between the irreversibly fatal sawing of the tree and its ultimate felling. As such, these images signal both the end of the tree as a singular entity, and the beginning of its commodity form through the multiplication of lumber and photographic reproduction.

But these images also form something of a double portrait, where the postures of the image's human subjects demonstrate a disjunction of scale, of the need for a human figure to demonstrate the sheer magnitude of the tree. Further, the undercut generates or prefigures the stump, in effect revealing the diagrammatic rings that signify the age of the tree. Therefore, this gesture of lying across the core of the tree effectively inserts the logger into the tree's history. To put it another way, these individuals pose their bodies in such a way as to physically bridge an inhuman span of time, to touch both the pre-historical moment of the tree's origin and the sudden, violent historical moment of the

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<sup>34</sup> The long, heavy saws that were able to take on these trees were the product of advancements in metallurgy made during the Civil War. Lynwood Carranco and John T. Labbe, *Logging the Redwoods* (Caldwell, Idaho: The Caxton Printers, Ltd., 1996), 19.

<sup>35</sup> Carranco and Labbe, *Logging the Redwoods*, 26.



tree's felling, all at once. It is also important to consider how these images mark the evolution of the idea of the tree as a foe to be vanquished in service of civilization, to the tree as stand-in for wounded soldiers. Here we are perhaps seeing an amalgamation of both attitudes, where the logger both conquers yet maintains an embodied relationship by literally positioning himself inside of the tree.

The structure of Darius's photographic practice highlights the immense challenges of access as a turn of the century photographer following the logging camps.<sup>36</sup> Determined to document the big trees and the men who felled them, Darius often traveled 50 to 100 miles from his home via horse and wagon to embed himself in the logging camps with his photographic equipment, which all told weighed about 150 pounds. He used a series of view cameras, including his massive 20 by 24 inch Eastman Empire State view camera, and devised tripods that could expand up to twelve feet so that he could shoot the loggers posed in the undercut laterally across from his own elevated position.<sup>37</sup> Darius's 20 by 24 inch view camera, an unusually large device for taking images in the field, was perhaps uniquely suited to capturing the massive trees. A May 8, 1902, article from the Skagit County *Courier* details the occasion of transporting this camera into the woods with the assistance of two men for the purpose of documenting a 16-foot tree thought to be the largest fir tree in Washington, while Darius's camera, fittingly, was also allegedly the largest in the state. Notably, the tree was "undercut especially to be photographed."<sup>38</sup> This remarkable enterprise reveals the degree of energy and planning

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<sup>36</sup> Andrews, *This Was Logging!* 14.

<sup>37</sup> Andrews, *This Was Logging!* 10.

<sup>38</sup> Bohn and Petschek, *Kinsey, Photographer*, 151.

required to make these portraits; they are therefore anything but casual or spontaneous images.

A portrait of Darius circa 1920 showcases the many cameras that he owned and his impressive array of leggy tripods. From 1907 onwards, he favored his 11 x 14 Eastman View camera, but also had in his possession a Press Graflex, a panoramic Folmer and Schwing Cirkut No. 8, and Stereoscopic Premo camera. These cameras were professional level apparatuses with the highest quality type of lens available. In a 1914 Graflex catalogue, the Press Graflex with Cooke Lens is listed as \$172, while the Cirkut is priced at \$175. The Premo Stereograph, which Darius used to make his many stereographic prints of Western Washington, is listed in the 1896 Rochester Optical Co. Premo Catalogue between \$70 and \$85. The high level of monetary investment evidenced in this portrait places Darius in distinct class of professional working photographer; Eastman also offered an out-of-the-box portrait set “specially designed by practical men” that met “every requirement in efficiency and compactness” and included a 5 by 7 inch camera, lens and lens hood, shutter, tripod, background drape and carrying cases for \$140, while Darius’s equipment in this image (not including tripods, glass plates, another necessary supplies for developing and enlarging) totals nearly \$600.

Once the glass plates were exposed in the field, Darius would then send them back to Sedro-Woolley to be developed and printed by his wife Tabitha in their home studio.<sup>39</sup> Tabitha’s darkroom work was central to the Kinsey’s operation; notably, she had no prior photographic experience before she met and married the young traveling photographer in 1896.<sup>40</sup> According to Dorothea Kinsey Parcheski, daughter of Darius and

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<sup>39</sup> Bohn and Petschek, *Kinsey, Photographer*, 19.

<sup>40</sup> Bohn and Petschek, *Kinsey, Photographer*, 39.

Tabitha, “Mother learned all her darkroom skills from my father. They were involved in a trial-and-error approach, although it was father who did most of the experimenting.”<sup>41</sup>

The pace of the operation was brisk, an indication of both the high volume of prints made and sold as well as the rapid turnaround time expected from the loggers:

[Tabitha] would finish one batch of pictures and before you knew it another big order would come in. Father must have been a pretty good salesman to have obtained the hundreds and hundreds of orders he sent in. ... She would develop the films, print the pictures, set up the orders in the large envelopes father had printed for the purpose, and dispatch them post-haste. Absolutely nothing was permitted to interfere with getting those finished pictures off to father in some logging camp.<sup>42</sup>

In Dorothea’s recollections of her mother, Tabitha both maintains a high standard for the developing of Darius’s photographs (attested to by the quality of extant prints today), but also is somewhat of a reluctant participant who suffered from headaches and other maladies from the stress of operations. While working diligently in service of the family business, which was entirely dependent on her labor, she apparently bore no personal passion for photography. She often conscripted various young family members to assist her in the darkroom and with packaging the finished prints. These prints were wrapped in their large signature brown envelopes with the names of the loggers’ written on the front in neat handwriting. Tabitha would then haul the unwieldy load into town to be mailed back to the logging camp office.

The logging office or Darius would then disperse the prints to the loggers, which had been paid for in advance either to Darius directly or deducted from the loggers’ pay. The cost of a print was 50 cents, a typical rate for prints at the time.<sup>43</sup> In one of Darius’s

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<sup>41</sup> Bohn and Petschek, *Kinsey, Photographer*, 22.

<sup>42</sup> Bohn and Petschek, *Kinsey, Photographer*, 21-23.

<sup>43</sup> Andrews, *This Was Logging!* 23

many newspaper advertisements, he hawks “One, for 50 cents; Three, for \$1; Seven, for \$2; Twelve for \$3, prepaid.”<sup>44</sup> A.W. Ericson, a contemporary of Darius who photographed the coastal redwoods in a similar operation, also offered a rate of 50 cents per print, while Clark, Darius’s younger brother, asked for 60 cents a print.

L.A. Stephenson, a former mechanic and “donkey doctor” for the Weyerhaeuser Company operation at Vale, recalls his encounters with Darius in the 1930s:

He’d come in the bunkhouse at night, when the men were there, and show them the pictures and what they would look like, and tell them all about the pictures. I think he charged four bits for those. If it was a group picture, he’d sometimes send one to all the men in the bunch and they paid him through the office. If it was a group picture. But if it was an individual picture, like certain ones he’d made before ... why they’d pay him right there, or anyway, I always did. He’d send them by mail, you know, and they’d come through the company commissary. They were all in big, brown envelopes, and they were all addressed to each person.<sup>45</sup>

In several of Darius’s group portrait shots in logging camps and sawmills, a temporary gallery of images is visible tacked up on the walls behind the group, while in others, a portfolio of images can be seen being passed through the ranks. This glimpse into Darius’s “pitch” process shows that while the loggers were being sold on the possibility of creating their own future portrait in the image of past logger portraits, they were also being offered prints from a series of proven “winners”: more general views with broad appeal.<sup>46</sup> Darius’s practice, therefore, depended not only on a seriality of image types — standardizing, recreating, and mass producing the undercut logger portrait in particular —

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<sup>44</sup> Bohn and Petschek, *Kinsey, Photographer*, 70

<sup>45</sup> Interview with L.A. Stephenson, Marysville, March 1974, in Bohn and Petschek, *Kinsey, Photographer*, 238.

<sup>46</sup> Jeffrey Jewell, photography archivist for the Whatcom Museum, noted in a September 17, 2021 conversation that the system of numbering and captioning Darius Kinsey’s glass plate negatives was somewhat erratic, with permanent notations and revised captions scratched into the negatives for “winners” (Jewell’s term) after a print’s marketability was demonstrated.

but on the multiplicity and circulation of popular prints that were marketed back to the loggers. Darius's brother Clark, who was operating in the same area — Darius and Clark had divided up the territory so as not to compete with one another — also favored group portraits, which allowed him to sell many prints of the same image.<sup>47</sup>

The cost of these prints would have been easily in reach for the turn of the century logger, who was eager to obtain a portrait in the woods. Darius was often quoted as saying “You aren't a logger until you own a dollar watch and have your picture taken with a tree.”<sup>48</sup> Loggers could expect to earn \$30 to 40 a month, while the specialized workers who drove the bull teams (known as “bull punchers”) and more experienced men could earn \$125 a month, high wages at the time.<sup>49</sup> “Short stakers, long stakers, the loggers were single, tough and glad to get a dollar a day. They were Swedes, Finns, English, Irish and Welsh. ... They came to the camps with blanket packs, were hired as swampers, fallers, sawyers, hook-tenders, bull punchers or teamsters.”<sup>50</sup> At the beginning of the twentieth century, workers in western Washington could expect an average daily wage of \$2.50, which was notably higher than wages for logging work elsewhere in the country.<sup>51</sup> Pay stagnated during the Depression, and in the 1930s, a minimum wage of

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<sup>47</sup> David A James, *Grisdale, Last of the Logging Camps: A Photo Story of Simpson Camps from 1890 into 1986* (Fairfield, Washington: Mason County Historical Society, 1999), 29.

Bohn and Petschek, *Kinsey, Photographer*, 96.

<sup>48</sup> Andrews, *This Was Logging!* 13, 31.

<sup>49</sup> Donald MacKay, *Empire of Wood: The MacMillan Bloedel Story* (Seattle: Douglas & McIntyre; University of Washington Press, 1982), 191.

<sup>50</sup> Ralph W. Andrews, *Timber* (Atglen, Pennsylvania: Schiffer Publishing Co., 1984), 55.

<sup>51</sup> Robert E. Ficken, *The Forested Land: A History of Lumbering in Western Washington* (Seattle: Forest History Society; University of Washington Press, 1987), 132.

\$3.20 a day was established after union and strike activity in the Bloedel, Stewart, and Welch camps, later part of the MacMillan Bloedel empire.<sup>52</sup>

The creation of a visual identity for the loggers seems largely predicated on mapping their presence onto the superlative tree; if Watkins's images proved the existence of the giant tree, the Kinseys' proved the existence of the stalwart hand logger and exalted his labors. These images bring the logger into being at the same time as they are flattened into types. Annotation is therefore critical to these images, with Darius's captions attesting to the quantifiable heft of the trees being felled, and the scale of industrial achievement. Prints that make their way from the logging camp into family albums bear critical information for future generations, circling individuals and identifying which grizzled figure is a favorite uncle or brother. The proliferation of prints and the serial creation of images of a particular type, therefore, does not detract from the value of the portrait to the individual logger, but rather marks a logger's entry into a specialized group. Yet, the distinct roles played by each individual within the logging operation are often glossed over, presenting these workers as a homogeneous labor body, each with a comparable relationship to the arboreal subject. In many group portraits, workers are all posed strategically on top of, next to, or inside of the tree to indicate its sheer scale.

These photographs provide an inimitable record that documents burgeoning industrial logging practices, but also reveals the historical persistence of particular attitudes of natural abundance and endless forest resources. These images demonstrate the aggregation and transformation of the organic structure of the forest into the orderly,

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<sup>52</sup> MacKay, *Empire of Wood*, 200.

engineered systems of massive works and infrastructure, often directly supporting the expansion of the logging endeavor. Richard Rajala notes the early twentieth century desire to make the forest into a factory, standardizing what is an inherently dangerous and unpredictable industry.<sup>53</sup> This modern industrial goal reflects the long-standing aim to bring order to the woods and to extract value. This desire, even if not ultimately achieved, is perhaps expressed by images of perfectly planed and stacked boards or even the more roughly hewn logs which form train trestles, which will be explored in my second chapter. These images invite the viewer to extrapolate beyond the frame of the image, to imagine an unending pile of lumber or the massive system of train travel and the transportation of goods.

Within these logging photographs, and particularly between the individual practices of the Kinsey brothers (Darius and Clark were eight years apart in age), there is a clear evolution of subject matter over time, with an increasing focus on the use of new machinery and equipment used to support the logging industry.<sup>54</sup> This corresponds with a shift that occurred around 1930 with the advent of a more mechanized form of logging utilizing trucks, tractors, and cranes.<sup>55</sup> Both brothers chart the vast technological changes that take place in these logging camps; however, Darius's signature undercut images capture the spirit of an earlier phase of logging activity, connoting the invisible subject of manual labor emphasizing both the singularity of the tree and the endeavor. Clark develops a rather different image type than his brother, one that emphasizes the

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<sup>53</sup> Richard A. Rajala, "The Forest as Factory: Technological Change and Worker Control in the West Coast Logging Industry, 1880-1930," *Labour / Le Travail* 32 (1993): 73–104.

<sup>54</sup> Kenneth A. Erickson, "Isochrons of Logging on the Pacific Slope of Oregon, 1890-1940," *Yearbook of the Association of Pacific Coast Geographers* 19 (1957): 19–24.

<sup>55</sup> Erickson, "Isochrons of Logging," 19.

mechanical, wide-scale, and prolific operation of logging, and presents a more raw view of the industry (that was perhaps becoming less romantic itself as it became more industrialized, heading towards a more mechanical future of Caterpillar tractors and chainsaws). Clark's images of cold decks — massive piles of logs temporarily staged before being transported out of the woods — in particular are a key indicator of technological progress, as the techniques necessary to create such accumulations of timber were developed some twenty years after Darius first began his career.<sup>56</sup>

In a typical example, the image is tightly framed on a heap of logs that appear to be piled in a haphazard or even careless fashion. Here the trees are numerous rather than singular, and notable for their length if not girth — perhaps due to a scarcity of remaining monsters captured in earlier years by his brother. Loggers are positioned throughout the image, standing or sitting, and attesting to the sheer scale of the pile. While the individual logs are not the mammoths depicted in the elder Kinsey's undercut images, the accumulation of logs here gives a sense of massive scale. No longer standing within the sublime and unruly woods, the loggers are now posed on top of a dense, man-made, and horizontal forest of more modestly sized timber. If Darius's undercut portraits draw on Watkins's earlier photographs of giant sequoias in their composition, Clark's cold deck images seem to more closely align with the disastrous Civil War views. Yet the intent of these images is not to highlight environmental destruction, or to harken back to the uncivilized wild, but rather to celebrate the productivity and industriousness of the logging operation.

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<sup>56</sup> Orlo H. Misfeldt, "Timberland Terminology," *American Speech* 16, no. 3 (1941): 232. Lynwood F. Carranco, "Logger Language in Redwood Country," *Journal of Forest History* 18, no. 3 (1974): 52–59. James Stevens, "Logger Talk," *American Speech* 1, no. 3 (1925): 135–40.



On second look, the disorderly mass of logs is more intentional than it seems. First, it is evident that these are “bucked” logs, sawn into lengths and some with the bark partially peeled off. In the transformational process of trees into material, these have passed into a crucial stage of homogenization of form, allowing them to be more easily transported and, later, milled. Even the upward thrust of the composition signals movement and change, as the intrinsic instability of this arrangement indicates that these logs will soon pass from this temporary cold deck stage to the next yard, and onto the sawmill for further material refinement.

Although visually crude, even this casual pile evidences significant technological intervention. Like the undercut images, here we are presented with an “after” state, the evidence of significant manual and technological effort. While Darius’s undercut images lead the viewer to contemplate the manual labor that produced the massive undercut (with the use of the hand axes and crosscut saws deliberately arranged, often symmetrically, within the image), here a natural question for the viewer might be how these logs came to be piled in such a way. A sense of awe then comes not from the conquering of the arboreal giant by hand, but rather from the application of industrial engineering in the woods.

A critical element in these cold deck images is the one vertical pole left standing in the shot; nearly all of Clark’s cold deck images include this central spar tree, often demonstrating a deep wound from the choker (cable loop) that would have circled the trunk and connected to the rigging that would have dragged these piled logs into position. Other images feature the leads and blocks that form part of this intricate network of rigging, powered by a steam “donkey” engine. The introduction of donkey engines in the

logging camps also shifted the worker composition. If previously the felling crew — fellers (or fallers) who brought down the tree with precision, and the buckers who began to process the logs for the mill — were highly valued for their skill in dropping massive trees, now there was a focus on the new mechanical operators who ran the donkey engines, and, later, the daring high riggers who climbed to vertiginous heights to rig spar trees.

The foreground of another Clark Kinsey image features the donkey engine and railway track that would have been used to move the logs — the critical mechanical infrastructure that allows for the creation of cold decks. The men on the skids pose with their new colleague: “Clyde” the charmingly named donkey engine. This engine was likely manufactured by Clyde Iron Works of Duluth, Minnesota, which specialized in producing heavy machinery for the logging industry. The composition of this image, which places the loggers in line with the engine and clearly displays the machine’s moniker, calls to mind the oxen and draft horses that these engines made obsolete (such as Clydesdales). It also serves as an effective anthropomorphizing of the newest, and arguably most important, worker in camp.

In this same photograph, the image is less tightly framed, allowing for a more complete view of the logging operation. In the background, the bald hill side features few trees left standing, with broken (unusable) timber left scattered down the slope to waste. This type of view is somewhat rare in Kinsey brother images; like the undercut images, perhaps some ambiguity works in favor of celebrating the loggers’ efforts, rather than revealing the dramatic ecological reality. While this deforested view is again in line with long held values of cultivating the woods, the view is rather less than picturesque.

While Clark's practice mirrored his brother's in many ways, he also attempted a more instantaneous and ad hoc darkroom production, developing prints on site.<sup>57</sup> His photographic family business also relied on a division of labor between husband and wife: "Clark and [his wife] Mary had no dark room. They traveled together into the woods, lugging along three small children and enough heavy gear to sink their Tin Lizzie touring car to the axles."<sup>58</sup> Unlike Darius, Clark could offer a near instant service as his wife produced the prints in a portable darkroom in the field. "Clark developed such a good rapport with camp storekeepers that they would count the number of orders and pay him in advance at 60 cents per print. Mary turned out the prints in camp."<sup>59</sup> While Darius used glass plate negatives, several thousand of which still exist, Clark's negatives are largely gone, due to the unstable film stock used.

Photographs of these logging endeavors represent a critical moment not only in the transition from hand tools to mechanical and steam-powered technologies, but also the beginnings of an ecological awareness that the trees being logged are themselves extraordinary, monumental, and fundamentally in limited (and irreplaceable) supply. These photographic images, in their reproducibility, represent the only form of replenishment for these vanishing resources. Darius made his own clearcut view in 1936, nine years before his death. It is a rare Kinsey image that contains no human figures or massive tree as focal point. Instead, the image depicts the landscape as both already

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<sup>57</sup> "Clark Kinsey & the Documentation of the Pacific Northwest Logging Industry — UW Libraries," accessed December 17, 2021, <https://www.lib.washington.edu/specialcollections/collections/exhibits/Kinsey>.

<sup>58</sup> James, *Grisdale, Last of the Logging Camps*, 29.

<sup>59</sup> James, *Grisdale, Last of the Logging Camps*, 29.

destroyed and in the process of destruction, as the nude hillside leads up to the stark line of trees at the edge of the forest, billowing with smoke as it burns. It is hard to imagine that there is no wistfulness in this image. Perhaps this photograph anticipates the end of the golden era of romantic logging, and with it the waning of the hubristic cultural belief in cultivation through felling and the coming environmental movements and timber wars.

While any speculation as to Darius's personal position on the devastation of Washington's coastal forests is just that, this photograph offers, through its own necessarily photographic framing, a critical and unflinching look at what lay beyond the typical undercut or cold deck image, which were carefully crafted with particular attention to environmental conditions. Ken Drushka, writing on the forests just to the north of the Kinsey's territory in British Columbia, notes:

When you look at old logging pictures it is easy to see how the romantic notion of logging arose. A bunch of guys stand smiling at the camera, with huge logs scattered here and there and gigantic machines poised for action. And it is always sunny, or at least never raining. But when the rain came and the photographers left, the loggers kept on working. This is one of the problems with any coastal logging history that includes photographs, including this one. The pictures tell only half the story; the other half of the time it was pouring rain.<sup>60</sup>

Darius would often face similar weather in his Washington forests, waiting out several days for right general lighting conditions, and possibly several hours more once his shot was set up.<sup>61</sup> But beyond the frame was not merely rain and atmospheric conditions hostile to view cameras, but significant ecological devastation. The clearcut forest in Darius's 1936 image represents the damage wrought by steam and high-lead logging

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<sup>60</sup> Ken Drushka, *Working in the Woods: A History of Logging on the West Coast* (Madeira Park, B.C: Harbour Publishing, 1994), 10.

<sup>61</sup> Bohn and Petschek, *Kinsey, Photographer*, 266.

techniques, which for the first time in Washington's history, introduced the possibility of depleting the previously inexhaustible forests.<sup>62</sup>

Early logging efforts in Washington's coastal forests were driven by the robust, but relatively small, shipbuilding market that greatly desired the tall, straight Douglas Fir timber stands. These early shipbuilders focused on oak, which was a traditional material shipbuilding material but relatively sparse, and the conifers, which were previously unknown to them but perfectly suited for masts and spars.<sup>63</sup> Washington's first loggers realized that felling a few giant trees could quickly satisfy demand, and set about logging timber directly adjacent to waterways, which provided the simplest means of transporting felled trees out of the forest and into the sawmills and shipyards. The limitations of moving the massive timber once felled reduced the possibility of causing large-scale environmental harm, and initially limited logging operations to a narrow band of accessible forest. With the population booms in California due to the discovery of gold in the 1840s, as well as the development of more effective techniques to fell the giant trees and extract them from the forest with horse and bull teams, production ramped up significantly to meet the demands of the southern market.<sup>64</sup>

As the logging industry in Washington began to expand and grow, it became characterized by both the willful flouting of federal law with regards to land acquisition as well as deliberate waste, both of which led to the "chaotic and haphazard" destruction of Washington's old growth forests.<sup>65</sup> Early logging operations either exploited loopholes

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<sup>62</sup> Richard White, *Land Use, Environment, and Social Change: The Shaping of Island County, Washington* (University of Washington Press, 2000), 96.

<sup>63</sup> White, *Land Use, Environment, and Social Change*, 80-82.

<sup>64</sup> White, *Land Use, Environment, and Social Change*, 36.

<sup>65</sup> White, *Land Use, Environment, and Social Change*, 77.

in or entirely ignored legislation intended to encourage the cultivation of land for agriculture, often resorting to outright fraud and theft (which were deemed regrettable but necessary aspects of the lumber industry), while at the same time leaving behind a trail of wreckage that clogged the understory with dead timber, invited wildfire, and materially changed the ecology of the forest:

Bull team loggers wasted immense amounts of timber. When they cut a healthy Douglas fir, they sent only part of it to the mills. Loggers cut the fir from ten to twenty feet above the ground to avoid the thick and pitchy base, and they discarded everything above the first branches, usually forty to fifty feet of the total length of the tree. If the tree fell into a ravine or onto broken ground, or if it shattered when it fell, the whole trunk would be left to rot. Loggers left an incredible amount of timber—buts, tops, and limbs—on the forest floor at the end of a logging operation. . . . In the nineteenth century lumber industry, however, waste had little economic meaning. The mill owners and lumbermen assumed the forests to be inexhaustible, and the industry was chronically plagued by glutted markets. Hence, for them, more efficient logging would only provide more costly wood for an already oversupplied market.<sup>66</sup>

With the advent of steam and increasingly mechanized logging technologies, the pace and extent of the ecological impact on the forest dramatically increased. Further, taxes levied against legally held land promoted rapid clearcutting in order to reduce property value and ease the logging companies' tax burdens; early conservationists such as Gifford Pinchot, the first chief of the United States Forest Service, advocated for tax reform as an effective means to prevent the total depletion of America's timber resources.<sup>67</sup>

The Kinseys' documentation of Washington's lumber industry occurred during a momentous shift in attitudes towards America's timber resources, as the industry moved from the nineteenth century's indifferent exploitation of a seemingly inexhaustible forest to the necessary confrontation with the ecological toll of its actions, not limited to the

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<sup>66</sup> White, *Land Use, Environment, and Social Change*, 88-89

<sup>67</sup> White, *Land Use, Environment, and Social Change*, 97.

See also, Ficken, *The Forested Land*, 130-31.

devastating possibility of a “timber famine” at the start of the twentieth. The image of the logging industry represented inside of the photographic frame is romantic, favorable, and necessarily selective; what lay beyond the frame was substantially more conflicted.

One final technological development in the turn-of-the-century logging industry was of particular importance for photography: the instantiation of new methods for cheaply and effectively manufacturing paper from wood pulp. This development, coupled with new imperatives to reduce waste in logging, meant that “useless” species previously spared the axe, such as hemlock, were now highly desirable.<sup>68</sup> The market for wood pulp paper was robust, and “American paper output increased by 500 percent between 1879 and 1899.”<sup>69</sup>

This transformation of tree into paper is critical as well when considering the photographic object, where wood pulp paper eventually replaces cotton rag paper as a popular material substrate. In the case of the Kinseys’ prints, the memento photograph purchased by the loggers is not only an imagistic representation of the tree, but a very material fragment and product as well. The loggers depicted in Clark’s images of the Polson Logging Company are more tightly imbricated still, as the logs in this cold deck are destined for the paper and pulp plant in Hoquiam. As the tree is fixed imagistically on a substrate of its own substance, it has become a historical document of its own demise.

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<sup>68</sup> Ficken, *The Forested Land*, 173.

<sup>69</sup> Ficken, *The Forested Land*, 173.

## CHAPTER TWO

### *Timber, Trestles, and Trains*

In an 1891 photograph taken in California's aptly named Big Stump Forest, one tree dominates the frame: it is easily twice the height of the small trees that surround it and remarkably wide, but perhaps most shocking of all, it is positioned at an uncanny forty-five-degree angle to the ground. Upon closer inspection, the fatal undercut and miniscule loggers at the base of the giant reveal that the photographer, C.C. Curtis, captured this sequoia at the precise moment of its felling. Unlike Darius Kinsey, Curtis's primary intent in creating this image was not to memorialize the loggers who took 13 days to bring down the Mark Twain Tree (even if several group portraits were made on and around the massive 25-foot-wide stump), but rather to provide irrefutable photographic evidence of the tree's natural origins and spectacular scale.

These images would accompany two slabs taken from the tree on their journey eastward to the American Museum of Natural History in New York, and the British Museum (now Natural History Museum) in London via an all-expenses paid rail journey, courtesy of the Southern Pacific Railroad and its president, Collis P. Huntington. Unlike fellow (unnamed) sequoias destined for the local sawmill, these cross-sections were intended for national and international museological display; alongside other wonders of the natural world, they not only introduced giant sequoias to urban populations thousands of miles away from their original Sierra Nevada groves, but also celebrated the new transportation networks and technologies that made such a voyage possible.



This chapter explores the interplay between the railway and Big Trees within the nineteenth century framework of “progress,” both in terms of the technological progress and innovation that characterized America’s Gilded Age, but also in terms of sequential movement and the progression of timber products along the nation’s nascent communication and transportation networks. From the end of the nineteenth century through the early decades of the twentieth, the effective and economic transportation of the tree out of the forest was increasingly reliant on the implementation of new industrial technologies, chiefly steam powered donkey engines and purpose-built logging railroads.<sup>70</sup> This chapter examines the role that photography plays in the transportation, transposition, and transformation of the tree, as it moves — often uncannily — through space, assumes a fundamental re-orientation, and undergoes significant material changes. If logging photographs mark the abrupt ending of the tree as a living entity, they also anticipate the beginning of a process of material commodification, rationalization, and, ultimately, the imagistic abstraction of the tree.

As such, this chapter supports this dissertation’s larger exploration of the temporal and imagistic capacities of photography vis-à-vis the material exploitations of wood. I argue that the surprising wooden-ness of the American Gilded Age is enabled by photography’s ability to present reliable and trustworthy visual evidence, and therefore propagate a kind of timber faith: first, in the true existence of the Big Trees (and by extension the purportedly unending arboreal abundance and natural resources of the American West), but also in the massive works of timber infrastructure such as railway trestle bridges that allow for the rapid and relatively inexpensive expansion of the railway

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<sup>70</sup> Kenneth A. Erickson, “Isochrons of Logging on the Pacific Slope of Oregon, 1890-1940,” *Yearbook of the Association of Pacific Coast Geographers* 19 (1957): 19–24.

system. As the primary material supports for these increasingly expansive transportation networks, these simple timber forms directly facilitated the movement of goods, people, ideas, regional identities, and, fascinatingly, the Big Trees themselves.<sup>71</sup>

Two years after the felling of the Mark Twain tree, the Columbian Exposition provided a remarkable opportunity for California's Big Trees to yet again journey east, both physically by rail and imaginatively in photographs. The distinctly nineteenth century technologies of photography and rail travel each exemplified the ethos of the progress central to the 1893 World's Fair, a celebration of the 400-year anniversary of Christopher Columbus's "discovery" of the New World in 1492. Both technologies were well represented at the Fair, while also playing key functional roles in the Fair's very composition.

For example, one might consider the inert locomotives and luxurious Pullman cars on display in the Transportation Building, in contrast to the adjacent, and rather utilitarian, Jackson Park "L" Station, which brought visitors into the Fair and connected to the Fair's intramural railway. These functional railway systems enabled the physical circulation of the Fair's visitors, even as the terminus was the railway itself on display. Similarly, photographs on view at the Fair served as transportable proxies for objects or events that could not be brought to the Fair, while the Fair itself was extensively photographed. Critically, both of these technologies, through their abilities to flow from functional apparatuses to static displays, facilitated the concatenation of regional identities within the national theme of the Fair.

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<sup>71</sup> "Railway Ties and Telegraph Poles," *Scientific American* 43, no. 13 (1880): 194–95.

Photographs were ubiquitously displayed at the Exposition, from a dedicated photographic section in the Manufactures and Liberal Arts Building, to the Eastman Kodak Company's elaborate booth, to the survey photos and anthropological images on display in the United States National Museum exhibits in the Government Building. As Julie K. Brown notes,

Photography at the World's Columbian Exposition was much more than pictures on walls. It was a new form of popular culture for an increasing number of amateurs; it was an industry at the beginning of a meteoric rise; and it was a tool for communicating with a mass audience. In effect, photography was used to inform, persuade, record, and illustrate ideas on a scale not equaled in previous exhibitions.<sup>72</sup>

While photography was liberally featured within the Fair's exhibits, it was tightly controlled in its production. Amateur photographers visiting the Exposition who might wish to practice their hobby at the remarkable grounds of the White City were prohibited from using tripods — and resorted to creative solutions such as folding chairs to support their often bulky view cameras — and faced with a steep fee: “The regulations stipulated a payment of two dollars per day for a permit to photograph on the grounds of the Exposition (which was four times the daily admission charge); a prohibition of cameras that used negatives larger than 4”x5”; and a complete ban on stereo cameras and tripods.”<sup>73</sup> These restrictions protected the monopolistic operations of the Fair's own Department of Photography, which made “mass-produced, consumer-oriented [views of the Fair] available to the general public.”<sup>74</sup> Early on in the planning of the Exposition, the Fair's board had already elected to control not only the “continuity of photographic

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<sup>72</sup> Julie K. Brown, *Contesting Images: Photography and the World's Columbian Exposition* (Tucson: University of Arizona Press, 1994), xiii.

<sup>73</sup> Brown, *Contesting Images*, 94.

<sup>74</sup> Brown, *Contesting Images*, 70.

representation” of the Fair, but the lucrative commerce of photography as well, and they were well-rewarded for these efforts: “the board earned a substantial return on its investment [in the construction of the Department of Photography building and the administration of its operations and staff], with reported net receipts from the department of \$90,577.64 from the sale of prints, lantern slides, and commissioned photographs.”<sup>75</sup>

Photographs also played a key role in promoting the regional identity of the state of California, which was extensively represented at the 1893 Exposition. Photographs added critical visual context and legitimacy to the state’s many material and agricultural displays, which altogether supported the presentation of California at the Fair as superlative in its topography, climate, agriculture, and natural abundance. Within its own pavilion, the state was uniquely allowed to subdivide its displays into various county exhibits:

With the single exception of that for Illinois, the California building was the largest State building on the Exposition grounds. While maintaining a distinct exhibit in nearly all of the department or national buildings, such as the horticultural, mining, agricultural, and forestry, the State displayed in her own building so extensive an aggregation of her products that it was often referred to collectively as “California in miniature,” and as an “Exposition in itself.”<sup>76</sup>

The California World’s Fair Commission, which produced its comprehensive “Final Report” in 1894, argued that the unique regionalism of the California building was justified by the diversity of environments encompassed within the state — “California includes the lowest as well as the highest land in the United States, varying from 300 feet

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<sup>75</sup> Brown, *Contesting Images*, 70-72

<sup>76</sup> California World’s Fair Commission, *Final Report of the California World’s Fair Commission: Including a Description of All Exhibits from the State of California, Collected and Maintained Under Legislative Enactments, at the World’s Columbian Exposition, Chicago, 1893* (State Office, A.J. Johnston, Superintendent State Printing, 1894), 1.

below the level of the sea to nearly 15,000 feet above” — and by the state’s renowned agricultural fecundity — “no other [state] possesses so widely different conditions for the favorable growth of products ... but which, under the marvelous effects of irrigation, are transformed into comparative gardens; forests so dense as to be almost impenetrable, and plains so wide that not a native tree can be seen.”<sup>77</sup> This level of boasting nearly approaches that of a carnival barker; to support these claims, the state presented an exemplary array of goods and products at the Fair.

Perhaps California’s largest physical contribution to the Chicago Fair were its displays of three Big Trees: the “General Noble” sequoia stump, which had pride of place under the rotunda in the Government Building; the Humboldt County display in the California pavilion, which included a redwood stump 16 feet in diameter (the unnamed Eel River tree); and the California Wine Exhibit in the Horticultural Hall, which featured a “reconstruction” of a mammoth redwood tree:

[The display was] 40 feet high, the interior forming a natural grotto 28 feet in diameter. The background consisted of a fine picture of the Golden Gate, while the walls were covered with appropriate photographs and mottoes. ... This unique structure had a second story, and up its winding stairway one might climb to the gallery to view the trio of California raisin exhibits from Fresno, Riverside, and San Diego Counties.<sup>78</sup>

While these displays were set among others that celebrated California’s abundant agricultural yields and mineral resources, the Fair as a whole foregrounded the increasing industrialization of the nation during the Gilded Age.

This emerging industrialization was deeply imbricated in the Big Tree specimens on display; technological advances not only allowed these trees to be transported on rail

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<sup>77</sup> *Final Report of the California World’s Fair Commission*, 16.

<sup>78</sup> *Final Report of the California World’s Fair Commission*, 77.

networks to the Fair, but they also enabled their felling and removal from the forest. Previous logging operations in the Sierra Nevada were limited by pre-industrial methods that relied on teams of oxen and greased skids to move felled timber. With the advent of steam engines, logging railroads, and intricately engineered flumes, the largest sequoias and old growth groves were now vulnerable to the axe. Together with California's other agricultural displays, the Big Trees sent to the Fair communicated the untapped wealth of the Western forests, and the economic potential unlocked by industrial progress. But beyond the Chicago fairgrounds was the stark reality that the giant sequoias, which only grow in specific environmental conditions and at particular altitudes, were quickly disappearing. If the limits of pre-industrial logging methods ensured a certain sustainability, new technologies rapidly transformed the Converse Basin grove from the verdant home of the General Noble tree to a clearcut waste.

This less-than picturesque result of industrialization was absent in the photographs that were deeply entwined with these arboreal displays. In order to avoid accusations of "humbug," which had plagued earlier attempts to reconstruct these trees in public settings, photographs were produced at every stage of the process of felling and transporting these trees and played a critical role in their final re-installation. The "California Hoax" — a giant sequoia which was felled in what is now Grant's Grove in Kings Canyon National Park and sent in pieces to the 1876 Centennial International Exposition in Philadelphia, America's first World's Fair — was a notable example of a Big Tree display failing to convince visitors of the true existence of giant sequoias. With a lack of evidence (photographic or otherwise) to prove its veracity, its unfortunately

persistent nickname stuck.<sup>79</sup> One difficulty for visitors in accepting these displays was the degree to which Big Trees were fragmented before being reconstructed in the museum gallery or exhibition hall. The rounds from the Mark Twain tree, for example, were each divided into eleven wedges that fit around a central disc, creating visually distinct segments that could either represent a massive tree split into smaller sections for easier transportation, or a false arboreal construction meant to deceive.

While the Mother of the Forest sequoia, on display from 1856 to 1866 in the Crystal Palace in London, was largely accepted by the public as an actual tree, it was still questioned by some visitors, and guidebooks to the Crystal Palace exhibit were careful to include eyewitness testimony as to the verifiable existence of California's Big Tree groves.<sup>80</sup> Senator John Conness referenced the English suspicion that the Mother of the Forest was a "Yankee invention" in his 1864 speech in support of the bill to protect Yosemite Valley and the Mariposa Grove of Giant Sequoias, arguing that the most effective means of proving the existence of these trees was to leave them in situ.

The General Noble tree was sadly not spared, although its twenty-foot-tall stump still stands in Sequoia National Forest, just beyond the boundaries of the National Park, which was formed in 1890. In the 1890s, the land in which the General Noble tree stood was a government forest reserve; however, the de facto "owner" of the General Noble

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<sup>79</sup> While the 1876 sequoia was rejected by the public, the eight-foot-tall Mammoth Mission Grapevine, also on display in Philadelphia, was largely accepted. This massive vine was part of a postwar agricultural grape boom and helped secure California's place as a superlative wine producer.

Shana Klein, "'Westward The Star Of Empire': California Grapes and Western Settlement in the Nineteenth Century," *Southern California Quarterly* 100, no. 2 (2018): 124-49.

<sup>80</sup> *Description of the Mammoth Tree from California, Now Erected at the Crystal Palace*, Sydenham (R. S. Francis, 1857), 23.

tree was the local contract holder for sequoia cutting, the Kings River Lumber Company. The owners of the company, Hiram C. Smith and Austin D. Moore, in turn sold the tree to the World's Fair Commission of Visalia for \$5,000, who intended the tree to represent Tulare County in Chicago.<sup>81</sup> The tree was estimated to be nearly 300 feet tall before it was felled, and its circumference at its base was almost 100 feet. Allegedly, it was the second largest tree in the Converse Basin Grove, and at the time, the largest tree ever felled. Housed within the Fair's Government Building, the tree was the striking focal point of the large, double storied rotunda. Visitors could either climb inside of the tree, rest a moment at one of the benches encircling its base, or observe it from the vantage of a second floor balcony.<sup>82</sup> After the close of the Fair, the General Noble tree was displayed on the Mall in Washington D.C. at the Department of Agriculture until the 1930s, when it was moved into storage and likely destroyed by midcentury.<sup>83</sup>

An 1891 feature in *Scientific American* that announced the incredible event of bringing the General Noble tree to Chicago emphasized both the astonishing feat of transporting the tree, which was purported to require eight train cars, and the uncanny transformation of the tree, stating that the "...interior of the tree will be ... divided into the rooms, and the whole illuminated with electric lights."<sup>84</sup> These two factors — the unlikeliness of transporting such a massive object and the extent of human intervention

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<sup>81</sup> Donald J. McGraw, "The Tree That Crossed a Continent," *California History* 61, no. 2 (1982): 123.

<sup>82</sup> These various spatial negotiations of the tree reenacted the popular activity of riding or walking through tunnel trees. Two of the most famous tunnel trees — the Wawona Tunnel tree in Yosemite and the Pioneer Cabin Tree in Calaveras were both tunneled out in the early 1880s, in the same era as the Chicago Exposition.

<sup>83</sup> Ralph Warren Andrews, *Redwood Classic* (Exton, Pennsylvania: Schiffer Pub, 1985), 110-11.

<sup>84</sup> "A California Big Tree to Be Shown at the Chicago World's Fair," *Scientific American* 64, no. 22 (1891): 336.



— would seem to be the perfect conditions for Big Tree humbug. However, as Donald McGraw argues, the “... skepticism greeting the appearance of the 1876 centennial “hoax” was not to be heard in 1893. Several factors must account for that. Many more people had seen the great trees in their native habitat by the 1890s than by 1876. Of more importance, however, was the photographic evidence provided by [C.C] Curtis.”<sup>85</sup>

C.C. Curtis (1862-1955) was a photographer operating in California’s San Joaquin Valley and the boomtowns that sprung up around the logging operations and mills of the Sierra Nevada. The itinerant Curtis maintained a particularly strong tie to the giant sequoia groves that are now part of Sequoia and Kings Canyon National Parks; he not only took part in the socialist Kaweah Colony that briefly occupied the Giant Forest (home to the largest tree in the world, the General Sherman Tree), but also built a one-room cabin and photographic studio on top of a stump that was located a mere 250 feet from the soon-to-be-felled Mark Twain Tree in Big Stump grove. In the 1880s, Curtis put down roots in the nearby boomtown of Millwood due to the robust lumbering operations there, which provided a steady stream of business for the young photographer. Loggers and visitors alike wanted to have their portrait taken with the General Grant Tree, and “loggers had even cut ‘picture trees,’ trees with unnecessarily large undercuts, specifically for the purpose of having your picture taken in the undercut.”<sup>86</sup>

After the success of his photographs depicting the felling of the Mark Twain Tree, Curtis was contracted by Smith and Moore to document the felling of the General Noble tree. His remarkable photographs of the event show a rather different process than the

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<sup>85</sup> McGraw, “The Tree That Crossed a Continent,” 123.

<sup>86</sup> Jackie McDougall Weiner, *Timely Exposures: The Life and Images of C.C. Curtis, Pioneer California Photographer* (Sanger, CA: The Write Thought, 2009), 84.

standard logging operation captured by the Kinseys: in order to transport a tall trunk section of the tree, and to avoid the unsightly burn scars at the tree's base, the initial cut was made some fifty-two feet high.<sup>87</sup> The signature undercut image, therefore, includes a remarkable scaffold (also used to prevent further damage to the tree) with loggers perched at a dizzying height.

Just as he accomplished with the Mark Twain Tree, Curtis captured the precise moment the tree fell (as McGraw notes, well-timed without motion blur), just before the upper portion of the tree unexpectedly slid and crashed through the scaffolding. Luckily no one was injured, but the tree did sustain a split that was later patched back together. Curtis continued to take photographs as the tree was prepared for its journey and eventual reconstruction; once hollowed out and cut into numbered sections, the tree was carted by horse and mule on to the next stage to be transported by rail.

Here Curtis's photographic fortunes turned. He had hoped to profit from selling his images at the Fair, yet when he arrived in Chicago with thousands of prints in hand, he discovered that the Exposition had a single official concessionaire, the Chicago News Company, and he was prevented from selling his images within the fairgrounds.<sup>88</sup> In an attempt to recoup his losses, he tried to secure a vendor's booth outside of the Fair through the Werner Company for a \$250 fee, plus an additional 25 percent of his gross receipts:

The amount was beyond his means and so he telegraphed Smith and Moore at their corporate headquarters in San Francisco. He received no reply for several days, and then read in a Chicago newspaper the saddening news that the Smith and Moore company had failed. ... In desperation Curtis turned to the Werner

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<sup>87</sup> Andrews, *Redwood Classic*, 110.

<sup>88</sup> Weiner, *Timely Exposures*, 121.

Company, holders of the exclusive concession rights, and sold “two or three thousand prints” to them.<sup>89</sup>

Even if his images of the General Noble tree made their way onto the walls of the Government Building, Curtis suffered significant financial loss from his arrangement with Smith and Moore and returned to California nearly penniless.

While fellow photographer A.W. Ericson (1848-1927) — whose images represented Humboldt County and largely featured the giant sequoia’s coastal counterpart, the redwood — was not plagued with woes as severe as poor Curtis, he too experienced disappointment: “At the close of the Fair, many exhibits were sold by the California Fair Committee to avoid the considerable expense of shipping them back to their owners in California. Among the items so auctioned were Ericson’s Humboldt County photographs.”<sup>90</sup> These images were subsequently published in the 1894 book, *Our Own Country*, which not only failed to credit (or compensate!) Ericson for his work, but also miscaptioned and erroneously located many of these views in states other than California.<sup>91</sup>

Ericson’s photographs, some 200 of which were displayed in the California Building, also held a somewhat liminal status. Seemingly, Ericson’s photographs (and others’) were not conceived of as visual objects, such as the paintings and other artworks on display nearby, but rather as illustrative portals that supported and enriched their exhibitions.<sup>92</sup> The California World’s Fair Commission’s “Final Report” exhaustively listed the provenance of each object on display from California; while this record

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<sup>89</sup> McGraw, “The Tree That Crossed a Continent,” 132.

<sup>90</sup> Peter E. Palmquist, *Fine California Views: The Photographs of A. W. Ericson* (Eureka: Interface California Corp, 1975), 9.

<sup>91</sup> Palmquist, *Fine California Views*, 9.

<sup>92</sup> Palmquist, *Fine California Views*, 9.

accounted for the origins of each raisin, orange, redwood plank, and lump of gold ore that was sent to Chicago, it notably did not include Ericson's name, even if he was widely acknowledged to have supplied the photographs on display for Humboldt County.

Ericson was a well-known and established photographer operating at the turn of the century in Arcata, California, located along the state's northern coast. His career hit a high point in 1893: sponsored by the Humboldt County Chamber of Commerce, Ericson was featured heavily in the book *In the Redwood's Realm*, which included at least 125 of his images (again, his work was not directly attributed in this publication), and took part in the Humboldt County exhibit in the California building of the Chicago Exposition.<sup>93</sup> Ericson's images supplemented Humboldt County's dense display of its industries and natural abundance, which had "filled a floor space of 52 by 26 feet, or an area of 1,352 square feet, with an unique display, which had more of a wildwood air about it than any other in the building, being suggestive of the forest, the mountain slope, and the glen, with deer, bear, and other wild animals therein."<sup>94</sup>

Like Curtis's documentation of the General Noble tree, Ericson's images forged an important connection between the redwood fragments on display in the exhibit with their coastal California origins. While Ericson himself is not listed as an exhibitor, the Pacific Lumber Company of Scotia, California, was credited as the contributor of the redwood planks that formed a joint display of lumber and photographs: "Entering from the north, the first feature that caught the eye to the right was a wedge-shaped structure about 8 feet high and 12 feet long, set on end. A broad band of redwood panels girthed

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<sup>93</sup> Palmquist, *Fine California Views*, 9.

<sup>94</sup> *Final Report of the California World's Fair Commission*, 29.

the base, while above was a row of photographic scenes among the forests and lumber camps of Humboldt County.”<sup>95</sup>

It is likely that these views included a staged scene organized by the Excelsior Redwood Company of Freshwater, California:

The *Excelsior Redwood Company* controlled and owned 10,000 acres of redwood timber at Freshwater, California. Included in this land were thousands of acres of virgin redwoods, many trees of which were of a great size. In preparation for the Chicago Columbian Exposition, the company cut several huge trees and loaded them aboard the flatcars of the *Eureka and Freshwater Railroad*. Ericson was called to the scene to photograph these trains for a display in the California exhibit.<sup>96</sup>

The trains in these images were loaded and staged particularly for this occasion, likely in 1892; while these specific rounds did not make their way to Chicago (they were rather destined for the sawmill), Ericson’s images served as critical substitutes for them at the Fair.<sup>97</sup> Within the matrix of objects on view in the Humboldt County display, the dual display of timber products (redwood planks) and lumber yard imagery would have emphasized the industrial feat of processing these uncannily large trunks, which had met their iron equal in the locomotive assets of the Excelsior Company.

Ericson’s photographs of trees on trains would have also provided support to the relocation of the General Noble tree and the California Big Tree Joint Wine Exhibit, as well as a little-discussed redwood stump that was also located in the Humboldt County display, which measured between fifteen and sixteen feet in diameter.<sup>98</sup> This section, from a redwood grove near the Eel River (adjacent to the Pacific Lumber Company

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<sup>95</sup> *Final Report of the California World’s Fair Commission*, 30, 180.

<sup>96</sup> Palmquist, *Fine California Views*, 62.

<sup>97</sup> Palmquist, *Fine California Views*, 23.

<sup>98</sup> *Final Report of the California World’s Fair Commission*, 30.

works in Scotia), is recorded in a short feature in the *Pacific Rural Press* from 1893, titled “A Giant Redwood for the World’s Fair”:

Mr. J. H. French has just completed the work of getting out a section of a mammoth redwood near Eel river and about two miles from Englewood. The log from which the outside was taken was twelve feet long and twenty feet in diameter at the butt, and bark and all scaled 36,000 feet board measure and was estimated to weigh when solid 129 tons; this, however, is not to be shipped whole. The outside or shell, about eight inches in thickness, is off, leaving the heart on the ground. It has been rafted down to the head of the Pacific Lumber Co's track and will go via Field's Landing to San Francisco, thence to Chicago, and when it reaches Jackson Park it will be put together and have a door so that visitors from all parts of the world can be admitted and see a Humboldt redwood outside and inside. Mr. French also got out a log two feet in length and fifteen feet in diameter and scales 3600 feet board measure, bark and all. and will be sent forward with the other pieces. This will be shipped in solid log and be a part of the Humboldt county exhibit.<sup>99</sup>

While there is seemingly no record of the redwood house with a door in Chicago (this rather seems to describe the General Noble display, which was not a redwood from the coast but a sequoia from the Sierra Nevada), the fifteen-foot round does correspond to the California World’s Fair Commission’s report. A photograph in the San Francisco Museum of Modern Art’s collection by photographer Frank Kuykendall shows a man standing in front of the Eel River tree that was sent to Chicago; the height of the man in comparison to the tree would roughly support the diameter of fifteen feet (although the stated circumference of 68 feet would likely be a measurement of the tree’s widest point closest to the ground, since this would equal a diameter closer to twenty feet).

This news feature, as well as Ericson’s images of the Excelsior locomotives and train cars, foregrounds the issue — and ultimate success — of transporting these massive timber products by rail. The *Pacific Rural Press* 1893 article notes the transfers between

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<sup>99</sup> “A Giant Redwood for the World’s Fair.,” *Pacific Rural Press*, April 22, 1893, Vol. XLV, No. 16.

the logging railway and boat (between Humboldt and San Francisco) and back to the railway to deliver the stump to Chicago Exposition's station stop at Jackson Park. This question of moving the Big Trees by rail (essentially, trees on trains) is enabled by a curious mirror condition: the necessity of timber tracks and trestles (trains on trees).

As stated at the beginning of this chapter, photography plays a critical role in the uniquely wooden American railway by facilitating a general faith in timber as a sound material counterpart to the heavy machinery it was to support. Railway photographs from the end of the nineteenth century through the first decades of the twentieth largely represent the strength of the system: as seen in Ericson's photograph of the Excelsior locomotives hauling massive logs, or in the body of images of the classic wooden train trestle. Yet this strength, which lives on in the enduring photograph, was rather temporary. Wooden trestles, while intricately engineered, were not meant to last longer than a few years until ultimately being replaced by more durable metal structures or fresh timber.<sup>100</sup> Until the advent of wood preservation techniques (chiefly, creosote), the wooden cross ties and poles that created the backbone of railway and telegraph networks would need to be frequently replaced.<sup>101</sup> The American Standard wood-burning engine, once the pinnacle of American railway innovation, would soon be replaced by coal burning engines less likely to emit wildfire-starting sparks and cause discomfort to downwind railway passengers.<sup>102</sup>

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<sup>100</sup> John H. White, Jr., "Tracks and Timber," *IA. The Journal of the Society for Industrial Archeology* 2, no. 1 (1976): 36.

<sup>101</sup> White, Jr., "Tracks and Timber," 46.

<sup>102</sup> "The American Wood-Burning Locomotive," *Scientific American* 6, no. 29 (1851): 227.

The relative permanence of the photographic image, which fixes these structures in time, demonstrates photography's capacity to distort and selectively frame, to amplify the temporal successes of these structures in such a way as to proliferate a general sense of faith in their integrity. Just as photography was able to defeat Big Tree "humbug" at the Chicago Exposition by offering believable provenances for the Big Tree displays, these railway images generated a very necessary belief in the strength and stability of these structures during these early, tenuous stages of network building, and subsequently allowed for iterative (more durable) industrial progress.

The proliferation of these networks also entailed considerable environmental changes, not only within the forests that yielded the requisite timber, but also at the site of the tracks themselves. Railway images, therefore, not only recorded industrial achievement but significant incursions into the landscape, particularly in the American West. These images also occurred at the introduction of a new fear that challenged the idea of the unending natural abundance of American forests.

The fear of timber depletion was particularly pertinent to the railway, which would have been quite vulnerable due to the massive consumption of wood in the creation of rail ties, trestle bridges, and other related infrastructure elements such as telegraph poles.<sup>103</sup> One brief article in *Scientific American* from 1856 notes: "... the Illinois Central R.R. Co. have adopted the expedient of planting locust trees on each side of the road. The object of this policy is to provide timber for a future supply of ties. ... All our railroads should do so likewise."<sup>104</sup> Some 50 years later, a similar note in

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<sup>103</sup> Robert D. Turner, *Logging by Rail: The British Columbia Story* (Victoria, British Columbia: Sono Nis Press, 1990), 1.

<sup>104</sup> "Trees on Railroads," *Scientific American* 12, no. 11 (1856): 84.



*Scientific American* describes the actions of the Pennsylvania Railroad forestry department, who had endeavored to plant 625,000 new trees in the spring of 1908, adding to a total of 2,425,000 total planted since the advent of the forestry program, all to support “future requirements in timber and crossties” and “the protection and ornamentation of the station grounds and rights of way.”<sup>105</sup> This fear of depletion (manifested by very real lumber scarcity in the Midwest), also prompted new railway connections to the rich forests of the Pacific Northwest and Sierras.

Another of Ericson’s photographs made a reappearance in a rather different context than the Humboldt County exhibit at the World’s Fair or the Humboldt County Chamber of Commerce publication — as a woodcut illustration in *Scientific American* in 1890, three years before the start of the Exposition. Founded in 1845, *Scientific American* was a weekly periodical that largely tracked the US Patent Office as “the Advocate of Industry and Enterprise, and Journal of Mechanical and Other Improvements.”<sup>106</sup> Within a year of its first issue, it had a circulation of nearly 4,000.<sup>107</sup> Unlike timber trade publications such as the Oregon-based *The Timberman* (started 1899) or local California periodicals, the New York-based *Scientific American* would have disseminated Ericson’s image to a much larger popular audience seeking the latest coverage of American inventions and industrial innovation.

The use of Ericson’s image (without attribution) in *Scientific American* in 1890 presents a classic photographic encounter between railway and giant timber. Since these

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<sup>105</sup> “Railroad Tree Planting,” *Scientific American* 99, no. 4 (1908): 63.

<sup>106</sup> “America’s Mailing Industry: Scientific American,” Virtual Exhibition, Smithsonian National Postal Museum, accessed November 11, 2023, <https://postalmuseum.si.edu/exhibition/america%E2%80%99s-mailing-industry-industry-segments-magazine-publishers/scientific-american>.

<sup>107</sup> “America’s Mailing Industry: Scientific American.”

massive redwood logs were captured in between the stages of felling and milling, they appear to be minimally processed, segmented at the proper length to accommodate the length of each rail car. There is an unnatural physics at play in these images, as the tree is made both horizontal and re-articulated to accommodate the curves of the railway track. While the essential “treeness” of the log is still preserved in its organic form, it has also been subjugated and assimilated to the railway system. This is a powerful attestation to the success of the railway — an object that was once unimaginably heavy and monumental, now made fluidly mobile.

It also demonstrates the fluidity of the image, which was initially staged to produce remarkable views for the World’s Fair, and now is repurposed seven years later to spectacularize the feat of transporting massive redwood logs to the sawmill via railroad. The article seemingly anticipates incredulity, and leads with the statement: “The illustrations herewith, both made from photographs, give a vivid idea of the size of lumber afforded by California trees, and go a long way to afford an explanation of the wonderful growth of the lumber industry on the Pacific slope within a few years past.”<sup>108</sup> These illustrations are both indeed photographic (and both possibly the work of Ericson); however, the one image marks another, important, material transformation. While one image is reproduced as a photo facsimile, the other bears the marks of its translation into woodblock engraving. The translation of the photograph into woodblock print allows for the ready multiplication and reproduction of the image; by making the photograph more wooden (both as woodblock print and as reproduction on paper), the image achieves a greater degree of transmissibility.

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<sup>108</sup> “Redwood Logging in California,” *Scientific American* 63, no. 4 (1890): 55.

The woodenness of the railroad is not only limited to massive timber as railway freight. Consider the all-wooden railway image as described by historian John H. White, Jr.: “The wooden railway in all its elements — wood burning locomotive, wood cross ties and trestle, and wooden cars.”<sup>109</sup> That is, a system made out of wood, that is fueled by wood, and that hauls wood. This concentration of wood in a technological context that is often characterized as being coldly inorganic and iron is perhaps surprising. The arrival at this point is uniquely American; White Jr. describes previous attempts to incorporate cheap wood, often with a high rate of failure, into other aspects of American railway development (perhaps most disastrously of all, all wooden rails) to allow for rapid and inexpensive expansion, as opposed to European systems that made use of more costly and permanent materials at the risk of slower progression.<sup>110</sup>

Wolfgang Schivelbusch similarly articulates the key differences between European and American railways as largely resource based. While Europe developed a system constrained by little land but able to capitalize on an abundance of labor, the American situation is nearly the opposite: a glut of land and little available labor shaped entirely different material and technological strategies.<sup>111</sup> As a result, the European railway was characterized by significant landscape interventions such as cuttings and bridges that allowed for the creation of a perfectly straight and level railroad. Its American counterpart demonstrated a rather different relationship to its environment through the use of seemingly unending natural resources and “virgin” land. Without spatial constraint, the American railway often curved around natural objects and avoided

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<sup>109</sup> White, Jr., “Tracks and Timber,” 45.

<sup>110</sup> White, Jr., “Tracks and Timber,” 41.

<sup>111</sup> Wolfgang Schivelbusch, *The Railway Journey: The Industrialization of Time and Space in the Nineteenth Century* (Oakland: University of California Press, 2014), 96-98.

obstacles rather than surmounting them, per Schivelbusch, demonstrating the influence of river travel and the ubiquitous use of steamboats as a popular mode of travel.<sup>112</sup>

The exception to this is perhaps the railway's encounter with the American West, where in contrast to the vast flat stretches of the Midwest, the mountainous landscape necessitated the engineering of structures to accommodate great topographic challenges. Logging railroads allowed access to forest resources that were previously accessible, and as tracks penetrated deeper into these areas, more sophisticated equipment and infrastructure was required.<sup>113</sup>

It is here that photography enters as a critical means of validating the integrity of these structures. F. Jay (Frank Jay) Haynes (1853-1921), official photographer for the Northern Pacific Railroad, assiduously documented its progress. One notable view of his, captioned "Testing the Bismarck Bridge. Eight Northern Pacific locomotives on one span of the bridge over the Missouri at Bismarck, October 21, 1882," documents a remarkable test of the integrity of this newly constructed bridge spanning the Missouri river.<sup>114</sup> While not the timber construction under analysis in this chapter, this newly constructed bridge over the Missouri presents some possibility of doubt, even if constructed out of masonry piers and metal. Haynes, positioned on the bank below the bridge, has framed the span in question expertly to capture the line of eight engines. The deliberateness of this setup demonstrates the indebtedness of this type of integrity test to the photographic document, where the success of the test is tied to the success and legibility of the well-composed photograph.

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<sup>112</sup> Schivelbusch, *The Railway Journey*, 90-92.

<sup>113</sup> Turner, *Logging by Rail*, 21.

<sup>114</sup> Montana Historical Society, ed., *F. Jay Haynes, Photographer* (Helena: Montana Historical Society Press, 1981), 81.

This image type that captures a locomotive just as it passes — or, as it has been carefully staged, to insinuate the decisive moment of travel — over the central and highest (most precarious) point of a trestle is echoed across many dozens of images. Another remarkable Haynes image is that of the Marent Gulch Trestle in Missoula, Montana. The reported height of this trestle varies between 222 and 226 feet, with many claiming that it was not only the highest structure in the Northern Pacific Railroad system, but the largest wooden structure in the world in 1883.<sup>115</sup>

The complex set-up of this image and the sheer distance between photographer and subject opens interesting questions about the orchestration of the shot. Regarding a similarly vertiginous (if not more so) shot of a bridge under construction, Oregon Historical Quarterly authors Beth Crow and Jarold Ramsey question how the crews on either side of the span were able to communicate and coordinate their actions.<sup>116</sup> This is compounded by the necessary communication with the photographer Ole Hedlund, who precisely captures the moment of a half dozen workers “walking the plank.” Perhaps these workers, like those in Haynes’s Marent Gulch image, were asked to hold their death-defying positions until the photographer could get into position in the gulch far below. The array of workers and the locomotive are seemingly spaced out to give a clear sense of height and scale. A closer look at the Marent trestle supports reveals two additional characters posed halfway up, possibly 100 feet high. Nearly more so than the weighty engine posed on top, the fearlessness of these two makes the strongest statement

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<sup>115</sup> Edward W. Nolan, *Northern Pacific Views: The Railroad Photography of F. Jay Haynes, 1876-1905* (Helena: Montana Historical Society Press, 1983), 49.

“The Marent Gulch Trestle,” *Scientific American* 49, no. 26 (1883): 399.

<sup>116</sup> Beth Crow and Jarold Ramsey, “Ole Hedlund, Photographer of the Central Oregon Railroad Era, 1909–1911,” *Oregon Historical Quarterly* 111, no. 3 (2010): 343.

of faith in the bridge's integrity. In a companion shot, Haynes has joined the workers on top of the trestle to capture them cavalierly posed with the very important "Pay car." Here there are echoes of the bravado and machismo present in the Kinseys's images, yet there seems to be a critical shift in focus from the individual logger or railway worker to an anonymous system of labor. This body of labor is kept within the photographic frame but is also distanced from the viewer such that these are no longer social portraits but rather industrial images.

In an 1883 *Scientific American* article on the engineering feat of the Marent Gulch Trestle, Haynes's image has been translated into another illustrative woodblock print that takes up well over half of the page. There are some significant differences between the artistic rendering and Haynes's photograph; most notable perhaps is the careful framing of a tree that nearly reaches the top of the span but is just that much shorter. At the base of the bridge, a pair of workers are posed on a stack of surplus lumber. Both details reinforce the fact of the bridge's timber construction, which is somewhat ambiguously presented in the engraving. Like the previously discussed *Scientific American* illustrations based on photographs, this print carries the objective force of the photograph while allowing for certain improvements. This represents a double processing that creates a spectacular, while at the same time "objective" or believable, image.

The photographer's keen self-awareness of the importance of their role is demonstrated by images that include a glimpse into the photographic process itself. In Arthur J. Russell's image of the trestle at Promontory Point, Salt Lake Valley, from 1869 (again featuring the familiar staging of locomotive and workers at a critical point on the span), Russell's photographic wagon is visible to the left of the trestle. The presence of

the wagon below poses a sort of vehicular confrontation with the engine above. As with Haynes, we can infer the photographer's trajectory as they generate the necessary distance and positioning to establish a successful shot, moving from the valley floor to a point just higher than that of the trestle. This not only captures the full span of the bridge, but the sparse, rocky landscape as well.

With these trestle images, there is a possibility of capturing great distance (between photographer and subject) but also massive height that is not possible with images taken in the dense woods of the logging camps. Posed in the gulches spanned by these bridges or up on a high ridge, these photographers are able to depict a sublime verticality. The tree depicted in the *Scientific American* illustration of the Marent trestle itself could be considered a Big Tree; taking into account the height of the bridge at 226 feet, this illustrative landscape element is casually approaching the altitude of sequoia giants such as the General Noble tree. The sheer quantity of timber required to construct such a structure is another representation of massive material abundance, here through aggregation rather than a singularly giant tree. Further, structures such as the Marent trestle represent a sort of timber reconstitution, in which organic objects are first reduced to planed and regular timber boards, before being built back up again into a massive edifice.

The geometric complexity of the operation of constructing a timber trestle is made clear in Ole Hedlund's image of a bridge under construction, where individual timbers have been laced together into truss panels that are then hauled into place by a crew of workers. Using a similar wire lead and steam winch system as the logging camps, here timbers move skyward as they are transposed and re-verticalized. Like railway cross ties,

these structures are also composed of repetitious and orderly units which disguise their organic material origins.

Wooden trestle construction was not limited to railway bridges. These structures were also necessary to maintain an even grade for the massive Sanger Flume, constructed by the Kings River Lumber Company (Smith and Moore's sequoia logging and milling venture) to carry boards from the lumber works in Converse Basin some sixty miles down out of the Sierra Nevada into Sanger, just outside of Fresno. The flume had an immense carrying capacity, moving approximately 12,000,000 board feet of lumber in the first few months of operation in 1890.<sup>117</sup> Yet the structure itself required an equally impressive 9,000,000 board feet and cost \$300,000 to build.<sup>118</sup> Despite the use of trestles, the flume's grade varied substantially over its course; in some places the planks sent down the flume might reach 50 miles an hour, whereas closer to Sanger, sections spanning the valley floor could hardly propel the lumber faster than a walking pace.<sup>119</sup> It was not uncommon for sections of the flume to break, dumping their valuable load down the hillside, and requiring frequent maintenance and repair to avoid further loss. These flumes, in addition to the primitive greased chutes used to move logs out of the forest, represented the purest form of wooden infrastructure conveying wood. Yet they rarely operated in isolation; in the example of the Kings River Lumber Company, short sections of logging railroad and steam donkey engines were critical to moving the massive sequoia logs to the head of the flume in Millwood.

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<sup>117</sup> Hank Johnson, *They Felled the Redwoods: A Saga of Flumes and Rails in the High Sierra*, Third Edition (Revised) (Corona del Mar, California: Trans-Anglo Books, 1977), 33.

<sup>118</sup> Johnson, *They Felled the Redwoods*, 34.

<sup>119</sup> Johnson, *They Felled the Redwoods*, 34.



If photography performs a unique and persuasive formal operation in the depiction of these structures that argues for their durability and plausibility, a natural question might be what is being left out? In her discussion of the “Dead Whistle,” the train whistle that alerted logging crews and camp members that a serious accident had occurred, Linda Carlson notes the sheer deadliness of logging railroads:

Many timbermen died not in the woods but on the logging railroads. ... Even a derailment, so commonplace as to be uneventful, could kill or seriously burn men when steam spewed out of overturned locomotives. Trestles, built only of wood for decades, were not always well constructed or well maintained; some collapsed under the weight of a locomotive or cars heavy with giant logs. Others burned along with trees when fire swept through the woods.<sup>120</sup>

Logging fatalities were also attributable to the re-purposing of “retired” locomotive engines for work in the woods, as well as the use of narrow gauge (three foot) track, as opposed to the standard gauge (four foot, eight and half inch) track, particularly when hauling large timber: “The track did not provide enough stability for hauling the large logs of the coastal forests and the light, narrow gauge locomotives seldom had the timber-moving capacity to justify their existence.”<sup>121</sup> Two wrecks in the 1920s, both of which killed the engineers on board, effectively ended the use of narrow gauge logging railroads in British Columbia.<sup>122</sup>

Two photographs documenting disaster on the wooden railroad by A. J. M. (Alexander Joseph Michael) Holzmann provide a rather different view than the depictions of neatly constructed trestles by Hayes, Hedlund, and Russell. In these images,

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<sup>120</sup> Linda Carlson, “When the ‘Dead Whistle’ Blew,” in *Company Towns of the Pacific Northwest* (University of Washington Press, 2017), 148.

<sup>121</sup> Turner, *Logging by Rail*, 35.

<sup>122</sup> Turner, *Logging by Rail*, 35-40.

there is disorderly wooden wreckage from the bridge's failure strewn about the derailment site. These seemingly spontaneously captured photographs could perhaps be considered reportage and lack some of the strict legibility of the carefully composed booster images. In one view, the wrecked *Olympian* train has come to rest on its side in a field of stumps. The foreground is muddy while the background reveals the sharply clear-cut alley in which the railroad is situated, flanked by dense, as-yet untouched forest. The telegraph poles planted alongside seem insubstantial and tenuously tilted, and it is unclear whether these are tangled in the wreckage. Within the frame, infrastructure and environment alike are depicted in a ruinous state.

Of the images under discussion in this chapter, Holzmann's photographs stand apart in their presentation of industrial disaster and of the failure of the railway system. Even if rarely depicted photographically, this violent outcome was not wholly unanticipated. In his seminal 1964 text, "The Machine in the Garden," the author Leo Marx frames nineteenth century conceptions of progress as an "explosion": "In America progress is a kind of explosion. ... Never has there been anything like the violent coming together of advanced art and savage nature."<sup>123</sup> Per Marx, the railroad is the natural site of this confrontation; if the axe performed the first stage of civilizing the wilderness, the railroad — in particular the locomotive engine, which serves as an inimitable symbol of technological and industrial possibility — transformed the American landscape into a productive and industrial territory. This explosive progress not only represented a subjugation of the past by the present, but also the violent alteration (and ultimately, destruction) of the "raw" American landscape. Like the nineteenth century railroad,

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<sup>123</sup> Leo Marx, *The Machine in the Garden: Technology and the Pastoral Ideal in America* (New York: Oxford University Press, 1964), 203.

photography also performed a critical “annihilation of space and time,” both compressing the thousands of miles between Chicago and California and distilling the thousand year life spans of the giant sequoias into a single decisive moment of arboreal destruction. Together, both technologies allowed for the instrumentalization of timber and trees in service of the nation’s newfound interest in progress, industry, and tourism.

## CHAPTER THREE

### *Big Tree Tourism*

In the first two decades of the twentieth century, at the same time that Darius Kinsey and other logging camp photographers trained their lenses on the monumental undercuts of soon-to-be-felled trees, a different genre of arboreal photography was developing further east in the newly protected groves of giant sequoias in California's Sierra Nevada mountains. This latter photographic mode, while contemporaneous with and often geographically quite proximate to large-scale logging operations, represented a new type of encounter with the American West, one that reflected the nation's burgeoning environmental awareness.

This environmental awareness represented a radical shift away from long-held Puritanical beliefs that found virtue (and even patriotism) in civilizing the American wilderness. It built upon nineteenth century conceptions of nature and wilderness that were crystalized in Romantic and Transcendentalist thought, both of which guided practitioners towards pastoral and picturesque rural lands (and away from the growing urban and industrial environments of the American East), and overlaid moral or religious meaning onto landscape — either by seeking out powerful, sublime views through which to confront one's own mortality and insignificance, or by finding spiritual truths in nature that reflected a higher, divine realm beyond one's material being. This new environmentalism not only pushed beyond the picturesque farmlands and cultivated woods of the East, penetrating deep into the American wilderness, but also encompassed a broad range of attitudes: from pragmatic conservation — which sought to conserve

forest resources and was not at odds with river dams, livestock grazing, and other efficacious development — to preservation — which sought to preserve the wilderness for future generations and precluded the extraction of resources — to what environmental sociologist Dorceta Taylor terms “business environmentalism” — a “tight coupling of business and environmental interests” that bridged the conservationist and preservationist positions and sought to capitalize on a public that was increasingly interested in outdoor recreation and tourism.<sup>124</sup>

As such, this chapter focuses on the production of photographic materials intended to both drive tourism to the Big Tree groves within the newly established Yosemite, General Grant (now Kings Canyon) and Sequoia National Parks as well as to argue for the protection of these public lands, even as the definition of “protection” was itself hotly debated. Across the magazine photo-essays, illustrated books, and pamphlets under discussion in this chapter there is a consistent use of specific, persuasive strategies of textual description and visual representation of the Big Trees. Many of these strategies propagate the idea that these groves and landmark trees are not to be missed; that is, while an abundance of photographic material is lobbied in these materials as a persuasive means to draw tourists westward and drum up support for environmental protection, inherent to them is the idea that photography is also insufficient, and that the primary experience of these trees is to be had in person.

As subject matter, the giant sequoias of the Sierra Nevada evoke similar sentiments of wonderment and awe as do their coastal counterparts and are easily cast as tourist attractions. Typical tourist photographs of sequoias from the turn of the century —

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<sup>124</sup> Dorceta E. Taylor, *The Rise of the American Conservation Movement: Power, Privilege, and Environmental Protection* (Durham: Duke University Press, 2016), 26-27.

like the images of logging, massive works of infrastructure, and the timber displays discussed in chapters one and two — celebrate the interplay of scale between the human and the Big Tree and unabashedly record the interaction between the two. One of the primary distinctions between the Kinseys' logging photographs and these tourist images of the giant sequoias is perhaps the negotiation of history and time. The massive undercuts that served as outdoor studio sets in the Kinseys' images could host many workers, producing a small series of similarly constructed portraits before the tree was ultimately felled and hauled to the sawmill. Because these portraits were made in a brief window in the logging process, replicating this portrait type necessitated moving the photographic operation to another arboreal giant about to be felled. These photographs therefore represent short temporal incursions into the tree's long life, which was terminated shortly after the creation of the image. By contrast, named, landmark trees left standing invite a seemingly unlimited number of possible portraits. If the trees present a deep history for tourists to engage with, they also promise a continued future, and a chain of pictorial continuity that connects all who pose in front of these giants.

These trees also adhere to historian Alfred Runte's thesis of "worthless" lands, which posits that the successful protection of certain areas in the form of National Parks was enabled by the inability — or purposeful refusal to — extract timber, water, or mineral resources from these regions. This theory readily pertains to the sequoias of the Sierra Nevada, which are notoriously difficult to both log and transform into timber products. Setting aside the sheer difficulty in transporting these massive trees out of the woods, sequoias also frequently shatter upon being felled, and their soft wood is mostly suitable for humble grape stakes and shingles, even if enticingly rot resistant. While the

sequoia's unsuitability as timber did not deter all logging efforts — sequoias were undeniably threatened by logging and are today classified as an endangered species — when left upright, sequoias became reinvested with new forms of cultural worth: as unique living testaments to centuries of human history, as wildly popular photographic backdrops for tourism, and even, in logo form, as the embodiment of corporate values.

Additionally, there is a different spatial negotiation of these trees, as tourists travel to, around, and on top of them. Perhaps the most iconic and widely represented of these trees, the Wawona Tunnel Tree in Yosemite's Mariposa Grove, provided visitors with the unique opportunity to travel through the standing, living tree. Photographs that documented famous figures traveling through the Wawona Tree effectively invited tourists to share in the same physical experience as President Theodore Roosevelt, for example. As such, this chapter explores the mechanisms by which tourism and, by extension, the railway, uncovered a different cultural and economic potential for these trees. Even if the establishment of the National Parks saved the Big Trees groves from outright destruction, it also placed them at the center of a national debate over the future of the nation's wilderness.

Two key figures, Gifford Pinchot (1865-1946) and John Muir (1838-1914) loom large in the early environmental movement, and each represents one side of the debate between conservation and preservation. Pinchot served as the first head of the United States Forest Service and was responsible for developing the practice of "wise use" forestry and planned development that sought to conserve the nation's timber resources.<sup>125</sup> Muir, on the other hand, was an environmental advocate and avid explorer

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<sup>125</sup> Roderick Nash, *Wilderness and the American Mind*, Fifth Edition (New Haven: Yale University Press, 2014), 129.

who championed the preservation of the American wilderness. While Pinchot's position can be characterized as anthropocentric (wilderness put to use in the service of people), Muir's is decidedly biocentric (wilderness protected for the sake of nature).<sup>126</sup> Despite the acrimony between their two positions, both Pinchot and Muir were indebted to the naturalist George Perkins Marsh (1801-1882) whose writings launched public awareness of the climatic perils of destroying the forest. They also found themselves allied against industry leaders who sought to protect their logging and mining interests from congressional interference.<sup>127</sup>

The coexistence of multiple modes of environmental engagement with the Big Trees, and the initial harmony between these positions, was prompted in part by fears of a coming timber famine at the beginning of the twentieth century. As historian Sherry H. Olson argues in *The Depletion Myth: A History of Railroad Use of Timber*, this catastrophic shortage never came about, yet the cultural belief in its inevitability was pervasive. These widespread timber famine fears were fed by the cultural awareness of the sheer volume of timber that was forested at the time: "It is true that the virgin timber of huge regions was cut, that entire commercial species were reduced to negligible quantities, and that everywhere except in the Northwest trees of very large size have been removed and are likely never to be replaced."<sup>128</sup> As Olson makes clear, there was in fact a massive and visible depletion of America's timber resources, particularly in the East and Midwest, which had entire timber stands eradicated and landscapes transformed. If the American public entered the nineteenth century with the belief that the nation's forest

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<sup>126</sup> Nash, *Wilderness and the American Mind*, 325.

<sup>127</sup> Nash, *Wilderness and the American Mind*, 115.

<sup>128</sup> Sherry H Olson, *The Depletion Myth: A History of Railroad Use of Timber* (Harvard University Press, 1971), 2-3.



resources were inexhaustible, the start of the twentieth introduced startling limits to this idea.

The myth of total forest depletion was fueled by Pinchot, who was certainly caught up in these concerns as head of the newly formed United States Forest Service. In a 1905 statement by Pinchot that is characteristic of his public addresses on the possibility of a timber famine, he states: "... the fact remains that all the information we can get goes to prove that the total supply of timber is diminishing very rapidly and that the total consumption immensely exceeds the natural growth ... So far, therefore, as I am able to see, the only possible safety for the railroads lies in setting aside lands already their own, or lands which they themselves will buy, and devoting them, under the principles of practical forestry, to the production of their own timber supply."<sup>129</sup> Not only does Pinchot preach the coming forest depletion in no uncertain terms, but he also identifies that any solution must necessarily involve the railroad companies, which were the largest timber consumers at the time.

Even if an economic crisis never came to pass, due in part to the underestimation of the abundance of timber resources in the West and sufficient changes in resource management by the railroad, it paved the way for the creation of the National Parks and spurred the railways' adoption of more conservation-minded policies. At the start of the twentieth century, the railroad consumed one fifth of the nation's total timber harvest.<sup>130</sup> As discussed in chapter two, this was largely due to the sheer "woodenness" of the American railroad, whose very substrate was wooden crossties and timber trestles. Even as the railroads were largely responsible for the problem of over-forestation, they also

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<sup>129</sup> Pinchot quoted in Olson, *The Depletion Myth*, 73.

<sup>130</sup> Olson, *The Depletion Myth*, 4.

provided the (economically advantageous) solution of penetrating new timber regions and serving as the very means for transporting these resources to the timber-depleted East. More so than Pinchot's advice to engage in "practical forestry," this solution had a definite economic incentive, as it allowed for the expansion of railway networks, and not only created critical transportation links to logging endeavors in California and the Pacific Northwest, but also enabled travel to the new National Parks.

The complicated relationship between the railway and the preservationists has its origins in the second half of the nineteenth century with the protection of Yosemite Valley and Mariposa Grove in June 1864 by an act of Congress, and the establishment of Sequoia and General Grant National Parks twenty-six years later, to spare their sequoia groves from logging. Richard Orsi's 1985 essay for the *Pacific Historian* offers two important justifications for the seemingly unorthodox alliance between the parks' major champion and representative of the preservationist position, Muir, and the Southern Pacific Railway Company.

First, Orsi notes the influence of business environmentalism on the early environmental movement, which was largely led by "... a tiny elite of artists, writers and naturalists — political amateurs short on numbers, financial backing, and political savvy. To overcome public indifference and powerful opponents, the conservationists often allied themselves to stronger, more experienced groups. On many specific questions, particularly the development of national parks and forest preserves, the western railroads provided the leverage to transform conservationist visions into actual laws and

functioning programs.”<sup>131</sup> At the onset of these environmental initiatives, which were largely undefined, all sides could find some common ground. By 1897, with the passage of the Forest Management Act that explicitly called for the “wise use” of resources within forest reserves over the preservation of wilderness (by allowing logging, mining, and grazing), Muir would formally break with Pinchot and the foresters, even if he still sought the support of railway industrialists.<sup>132</sup>

Second, Orsi notes that Muir’s stricter preservationism was not necessarily anathema to business environmentalism, as it was understood at the start of the twentieth century: “For [Muir’s] generation, the full scale of industrialism’s impact on nature, such as the astounding revolution which the mass automobile culture would work in wilderness areas, was unknowable. Most of the issues of twentieth-century environmentalism were undefined.”<sup>133</sup> For Muir, an alliance with the railway was necessary to boost the park’s initially low visitation, and therefore protect the young parks from the possible revocation of their protected status.

Yet the environmental offenses perpetrated by the Southern Pacific and other railways were undeniable:

The very introduction and operation of railroad technology proved incompatible with the preservation of natural conditions. Building the lines was an assault on nature. Construction crews wantonly dynamited hillsides, filled in depressions, altered watercourses, cut down trees, excavated sand and stone for construction materials, and slaughtered wild game for food or whim. Flooding and erosion were aggravated, and wildlife patterns were disrupted, at least temporarily. Despite precautions, cinders and sparks from locomotives or crew campfires

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<sup>131</sup> Richard J. Orsi, “‘Wilderness Saint’ and ‘Robber Baron’: The Anomalous Partnership of John Muir and the Southern Pacific Company for the Preservation of Yosemite National Park,” *The Pacific Historian: A Quarterly of Western History and Ideas* 29, no. 2 & 3 (Summer/Fall 1985): 136.

<sup>132</sup> Roderick Nash, *Wilderness and the American Mind*, Fifth edition (New Haven: Yale University Press, 2014), 137.

<sup>133</sup> Orsi, “Wilderness Saint,” 137.

ignited great grass and forest conflagrations, which raged uncontrolled across arid regions. On heavily traveled routes, the roadbed fairly reeked from garbage casually thrown overboard by dining car workers and from human excrement discharged by countless train toilets directly onto the tracks. The trash heaps and open privies of line maintenance crews added to the stench. By the end of the nineteenth century, the rights-of-way of many western railroads had become wasteland corridors.<sup>134</sup>

As Orsi argues, it was “enlightened corporate self-interest” that led Southern Pacific to pursue environmental projects and planning to protect natural resources critical to the function of the railway (notably, the fear of timber depletion) as well as to promote tourism to scenic wilderness along its routes. Many of the Southern Pacific’s leadership had deep environmental sympathies and ties, and *Sunset Magazine*, which was produced by the Southern Pacific’s passenger department from 1898 to 1914, “provided a major national forum for writers on water conservation, scientific forestry, and wildlife and wilderness preservation.”<sup>135</sup>

If the topic of environmental protection was subject to intense debate and divided opinion at the start of the twentieth century, the definition of the territory subject to protection — broadly, “wilderness” — was equally nebulous. Historian Roderick Frazier Nash began his classic 1967 text, *Wilderness and the American Mind*, with an analysis of the slippery concept of wilderness, stating: “Wilderness, in short, is so heavily freighted with meaning of a personal, symbolic, and changing kind as to resist easy definition.”<sup>136</sup> Nash argues that the concept of wilderness exists on a spectrum where the two extremes of fully wild and fully civilized are wholly improbable and rare; the question then becomes how much civilization is allowable for a space to still be considered wild.<sup>137</sup> Per

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<sup>134</sup> Orsi, “Wilderness Saint,” 141.

<sup>135</sup> Orsi, “Wilderness Saint,” 142.

<sup>136</sup> Nash, *Wilderness and the American Mind*, 1.

<sup>137</sup> Nash, *Wilderness and the American Mind*, 4-6.

Nash, “wilderness” then is a broad idea that is distinct from “related concepts [such] as scenery, country, outdoors, frontier, and rural.”<sup>138</sup>

The concept of wilderness not only shifts regionally but also historically. Nash marks the turning point in the American conception of wilderness as occurring in the nineteenth century, where the inheritance of European and specifically Judeo-Christian fears of the wild began to transform into reverence for solitude and the sublime in nature:

If religion was identified with wilderness rather than opposed to it, as had traditionally been the case, the basis for appreciation, rather than hatred, was created. ... In the early nineteenth century, for the first time in American history, it was possible to live and even to travel widely without coming into contact with wild country. Increasingly people lived on established farms or in cities where they did not experience the hardships and fears of the wilderness. From the vantage point of comfortable farms, libraries, and city streets, wilderness assumed a far different character than from a pioneer's clearing ... wilderness had actually become a novelty which posed an exciting, temporary alternative to civilization.<sup>139</sup>

With this newfound reverence for wilderness came an awareness that the United States offered something with no equal in Europe. The landscape of the American West was without equal, which allowed for the instantiation and preservation of a unique national identity.<sup>140</sup> Even if historically quite new, the United States could at last distinguish itself with its distinct and deep geographic history. As exceptional and superlative botanical specimens, the Big Trees readily embody this important national history.

Nash’s student, Alfred Runte, expanded upon Nash’s seminal history of American wilderness in his book *National Parks: The American Experience*. Runte notes the inherent compromise at the heart of America’s National Park project, as seen in the

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<sup>138</sup> Nash, *Wilderness and the American Mind*, 4-6.

<sup>139</sup> Nash, *Wilderness and the American Mind*, 56-57.

<sup>140</sup> Nash, *Wilderness and the American Mind*, 67.

continual battle between conservation and preservation.<sup>141</sup> One of Runte’s central (and perhaps most controversial) claims is that the National Parks were made possible due to their worthlessness, a characterization that derives from John Conness’s speech to Congress in 1864, in which he announces: “I will state to the Senate that this bill proposes to make a grant of certain premises located in the Sierra Nevada mountains, in the state of California, that are for *all public purposes worthless*, but which constitute, perhaps, some of the greatest wonders of the world. . . . It is a matter involving no appropriation whatever. *The property is of no value to the Government*. I make this explanation that the Senate may understand what the purpose is.”<sup>142</sup> Describing our National Parks as “worthless” is seemingly at odds with the bustling tourist economy that exists today within the parks and the generally accepted value of the natural wonders protected within them; perhaps a modern iteration of Conness’s speech would use the term “priceless.”

Per Runte, Conness’s declaration that the National Parks are worthless represented a nineteenth century conception of preservation, which sought to prevent the extraction of resources and overt commercialization of the land (as was largely lamented with Niagara Falls). Importantly, this historical idea of preservation did not preclude some development and the incursion of hotels, roads, and other necessary infrastructure within protected park boundaries — part of what Runte deemed the paradoxical and lamentable compromises necessary in order to establish these parks. To consider the parks to be worthless does not imply absence of economic value for these lands. Rather,

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<sup>141</sup> Alfred Runte, *National Parks: The American Experience*, Fourth Edition (Lanham, Maryland: Taylor Trade Pub, 2010), 44.

<sup>142</sup> Emphasis mine; quoted in Runte, *National Parks*, 43.

the thesis of worthlessness establishes that there is no value in extracting resources from these lands; that is, if extractable resources do exist, they are more valuable when left in-situ. This preservationist position is of particular importance for the survival of the Big Trees. Protecting the sequoias was central to the creation of Yosemite, General Grant, and Sequoia National Parks, yet even if the logging operations were kept out of these parks, they were not far away.

Several turn-of-the-century magazine essays in the Southern Pacific's *Sunset* monthly note the undeniable proximity of logging operations to these protected areas. Just as the railroads provided easier access for visitors to travel to the protected Big Tree groves of the Sierra Nevada, they also increased the visibility of the once remote logging camps operating in the same areas. An 1899 article from *Sunset* on the new accessibility of Kings Canyon, courtesy of the Southern Pacific Railroad, notes that "This great wonderland of the southern High Sierra has formerly been almost a closed book to the average traveler; for in order to reach it he would be forced to purchase an outfit of horses and camp equipage."<sup>143</sup> The new "comparatively easy" journey promoted in this article consisted of rail travel to Sanger, California, then a transfer to the Sanger, Millwood & Converse Stage Company for the forty mile stage leg to Millwood (one-time home of the photographer C.C. Curtis), and finally a thirty mile pack train into the canyon itself.<sup>144</sup> The author seemingly acknowledges that the Southern Pacific passenger who would make such a trek into the wilderness would likely be horrified by the logging camps they must pass through on the way:

If the visitor were to come no further than this he would feel well repaid for his journey, for here he may see in operation one of the largest sawmills in the West,

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<sup>143</sup> F.N. Le Conte, "Kings River Canon," *Sunset* 3, no. 1 (May 1899): 17.

<sup>144</sup> F.N. Le Conte, "Kings River Canon," 17.

which is now handling timber unrivaled in size the world over. From the town a railroad extends back seven miles into the heart of the forest, and there the mill runs night and day cutting giant sequoias and sugar pines into lumber. . . . But the awful devastation caused by the present wasteful method of timber cutting will be a sad sight for those who love these grand old forests for their own sake. In addition to the mill, the General Grant National Park, which is only two or three miles from Millwood, is a most attractive spot to visit.<sup>145</sup>

The sawmill in question in this passage is likely part of the Kings River Lumber Company (later the Sanger Lumber Company and then Hume-Bennett Lumber Company), which was responsible for the clearcutting of some 8,000 sequoias from the Converse Basin Grove, directly adjacent to the current boundaries of Kings Canyon National Park, as well as the felling of the General Noble tree for the World's Columbian Exposition of 1893 in Chicago.

A second *Sunset* article from 1900 notes a similar phenomenon on the journey into Mariposa Grove in Yosemite:

On the road to the Yosemite is that celebrated grove of sequoias known as the Mariposa Big trees—gigantic forest growths which have been described a thousand times, but which, like the Yosemite itself, remain undescribed. One cannot possibly conceive of the magnitude and majesty of these enormous trees until his own eyes have embraced their mighty trunks and traveled to the far heights to which their lofty heads tower. It is but a little way from Berenda station to the Fresno river and the city of Madera. . . . Far up, in many a rude mountain camp, are cut the huge trees which feed the lumber trade of this valley city. A flume sixty-three miles in length is the means of transportation from hill to plain.<sup>146</sup>

Again, the Kings River Lumber Company is identified here by reference to the notorious sixty-three-mile-long Sanger Flume. Accompanying this latter quotation is an illustration titled “From Giant Trees to Matches,” which includes inset photographs of the flume as well as massive logs hauled by rail. While this feature highlights logging as an important

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<sup>145</sup> F.N. Le Conte, “Kings River Canon,” 17.

<sup>146</sup> Phil Francis, “A Christmas Seed Time and A Spring Harvest in the Valley of the San Joaquin, California,” *Sunset* 4, no. 4 (February 1900): 145.



local industry (and echoes the booster photographs of infrastructure and railroads created to celebrate logging, as analyzed in chapter two), at the same time its title prompts some wistfulness about the fate of these trees, which are destined to become lowly matches. It perhaps suggests a strategy of vagueness on the part of the railway magazine that opens these images to multiple interpretations, depending on the reader's environmental or industry allegiance.

Similarly, the 1919 essay "Saving the Redwoods," published by the New York Zoological Society, contains images that at first glance appear to be largely comparable to the Kinseys' body of work — familiar photographs of stumps and undercuts from California's coastal redwood forests. Yet the context of these photographs and nuanced differences in composition make it clear that they are being leveraged here to condemn logging, and in particular raise the alarm that the entire species could soon be depleted, absent intervention. Unlike the Kinseys' photographs, there are nearly no people depicted in these photographs, except for one "behind the scenes" shot of an undercut photograph, which offers a rare glimpse into the photographic set-up of these images. This photograph seems to be hastily (possibly covertly) shot, with one photographer captured mid stride and the trunk of the ill-fated undercut tree leaning slightly to the left. A jumble of logs fills the foreground, and a broken snag and clearcut forest appear in the background; this dark, chaotic view stands in stark contrast to the careful framing that characterized the Kinseys' photographs.

The allure of posing inside one of the Big Trees was tempered by the fact that these undercuts were fatal incursions, a matter of increasing sensitivity for environmentalists at the turn of the century. A parallel phenomenon to undercut portraits

were photographs taken of living tunnel trees, which allowed visitors to pass or drive through them. The popular Wawona Tree, in Yosemite’s Mariposa Grove, and the Pioneer Cabin Tree, in Calaveras Grove, were both tunneled through in the 1880s.<sup>147</sup> Both of these giant sequoias have since fallen, an unintended consequence of their tunneling; the Pioneer Cabin Tree fell in 2017, while the Wawona Tree survived in its hollowed out state for nearly 90 years before falling in a storm in the 1960s. The Wawona Tree in particular attained an outsized iconicity, standing not only as the chief visual representation of the Mariposa Grove, but also appearing on numerous book covers and in *Sunset* magazine features, and serving as an early logo of the Pacific Mutual Life Insurance Company.

The visual prevalence and symbolic potential of the Wawona tree is due in part to its embodiment of key, exceptional, attributes that are routinely associated with the Big Trees and echoed across both tourist and preservationist materials, reflecting the large overlap in persuasive strategies used by pro-environmental and industry publications alike. Most evident and significant among these strategies was the emphasis on the trees’ longevity and size. In the example of Pacific Mutual, the Wawona Tree’s “age, endurance, strength and the fact that it was still growing” made it the perfect candidate for the company’s representative.<sup>148</sup> The exaltation of the Big Trees’ unrivaled age and size entail an entirely different botanical treatment, where these trees are not commonly

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<sup>147</sup> Helen MacDonald, “Pioneer Cabin Tree: When We Can No Longer Pass Through the Giant Sequoia,” *The New York Times*, December 28, 2017, sec. Magazine, <https://www.nytimes.com/interactive/2017/12/28/magazine/the-lives-they-lived-pioneer-cabin-tree.html>.

<sup>148</sup> “Pacific Life 150th Anniversary - The Making of a Logo,” accessed May 6, 2022, <https://www.pl150years.com/strength-to-grow/making-of-the-pacific-life-logo>.

considered as examples of a taxonomic type, but rather as singular natural objects, as named (and often personified) individuals.<sup>149</sup>

If the protection of the American wilderness serves to establish and protect a unique national identity, the naming of superlative trees also imbricates these trees in American history, most frequently through political personifications. The General Sherman tree in Sequoia National Park, the largest known tree in the world (but not the tallest, which is commonly thought to be the redwood Hyperion), was purportedly named after the Civil War Union Army general William Tecumseh Sherman in 1879. Also standing in General Sherman's grove are the President and Lincoln trees, named respectively for Warren G. Harding and Abraham Lincoln. In the nearby Grant's Grove in Kings Canyon National Park, the General Grant tree named for Ulysses S. Grant is typically considered to be the second largest tree in the world. The Confederate general Robert E. Lee was also a namesake for a massive sequoia in Grant's Grove, while other neighboring trees represent the houses of Congress.

While the naming of these trees may have served to protect them (it seems rather unpatriotic to fell Lincoln), other trees destined to be logged were still named in honor of celebrated individuals. As discussed in chapter two, a slice of the Mark Twain tree is still on display at the American Museum of Natural History in New York, and the General Noble tree, named for the Civil War general and Secretary of the Interior John Willock Noble, was sent to Chicago for the World's Columbian Exposition of 1893 and given

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<sup>149</sup> Note the anthropomorphizing inclusion of the Pioneer Cabin Tree on the *New York Times Magazine's* "The Lives They Lived" list from 2017, which memorializes notable individuals who died that year.

MacDonald, "Pioneer Cabin Tree: When We Can No Longer Pass Through the Giant Sequoia."

pride of place in the rotunda of the Government Building. Even though Noble endorsed the formation of Sequoia National Park, this particular tree fell outside the boundaries of protected public lands and was therefore subject to felling.<sup>150</sup>

Perhaps more so than their retroactive inclusion into American history, the appeal of the Big Trees as tourist sites is heavily predicated on their astonishing scale. In a representative 1909 traveler's account by W.C. Coker entitled "A Visit to Yosemite and the Big Trees," the author conveys the journey into Yosemite primarily through a detailed account of the flora along the way. The mode of description changes abruptly once the author enters the grove of Big Trees, moving away from detailed lists of tree, shrub, and flower types to a markedly reverential treatment of the famed Grizzly Giant, again focusing on age and scale:

Arriving at Wawona late in the afternoon, I spent the night there and made an early start by the foot trail for the Mariposa Grove of Big Trees, about seven miles away.

Along this trail grew black oak, sugar pine, yellow pine, incense cedar, a great deal of *Chamaebatia*, *Ceanothus integerrimus*, *Ceanothus cordulatus* and the beautiful blue-flowered *Ceanothus parvifolius*; a little manzanita (*Arctostaphylos viscida*) and gooseberry (*Ribes Menziesii*), some currants (*Ribes sanguineum*), hazel nuts (*Corylus Californica*), roses (*Rosea Californica*), flowering raspberry (*Rubus parviflorus*), and in damp places *Cornus occidentalis*. ...

"The Grizzly Giant" is the most impressive and probably the oldest tree in the Mariposa grove. It is thirty feet in diameter at the base, and twenty feet at ten feet from the ground. Its top has been shortened and sadly battered by storm and lightning, and its base deeply burnt by many fires, but the impression that it gives of massive grandeur and venerable age has not been lessened by its many vicissitudes. The age of this patriarch has been variously estimated, but it is probable that it is not less than 4,000 or more than 5,000 years old.<sup>151</sup>

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<sup>150</sup> Responsibility would shift in 1905 from the Department of the Interior to Gifford Pinchot and the new United States Forest Service.

<sup>151</sup> W. C. Coker, "A Visit to the Yosemite and the Big Trees," *Journal of the Elisha Mitchell Scientific Society* 25, no. 4 (1909): 141–43.

The varying language in this passage also marks a disciplinary shift from the scientific and botanical treatment of flora identified by Latin name to the nearly humanistic treatment of the Grizzly Giant, which is described as “venerable” and as a “patriarch.” This type of textual description largely captures attributes that are not necessarily visible, such as age and historical relevance, posing a challenge for photographic representation. These challenges are typically met through the instantiation of a variety of visual tropes and formulaic captions.

Three similarly-named publications serve as exemplars of these strategies: *Big Trees of California*, produced by the Passenger Department of the Southern Pacific Company in 1914; *The Big Trees of California: Their History and Characteristics*, by Galen Clark (who famously “discovered” the Mariposa Grove) from 1907; and the 1910 *Mariposa Grove of Big Trees California*, by B. M. Leitch, variously described as the Guardian or Superintendent of the Mariposa Grove and (at the time) its only full-time resident. These materials represent a diverse group of interests, from the railroad industry to individual preservationists. All share the same goal of protecting these groves, using remarkably similar pictorial and persuasive strategies to do so.

The first, perhaps most obvious, point of similarity, is the consistency of publication titles and cover art. *Mariposa Grove of Big Trees California*, by B. M. Leitch (1910), *The Big Trees of California: Their History and Characteristics*, by Galen Clark (1907), and *Big Trees of California*, produced by the Passenger Department of the Southern Pacific Company (1914) all abridge their titles to the same “Big Trees of California” for their covers. Further, both Leitch’s and Galen’s covers feature the classic image of horses or stagecoaches traveling through the Wawona Tunnel tree. The

Southern Pacific evokes a similar sentiment by juxtaposing its train and with a Big Tree, as if a passenger may ride a Southern Pacific train up to the very base of one of these giants. In fact, arrival at the park required different legs of rail travel, with visitors transferring from rail to stagecoaches (later motor coaches) and even horseback — not nearly as simple as the image makes it seem.<sup>152</sup>

It is also important to note the geographic specificity of these trees denoted by the title of “Big Trees of California.” This again demonstrates a shared aim between environmental advocates and railway boosters, who both benefited from ascribing a unique nationalism to the trees and therefore capturing the attention of possible park visitors. As noted in *A Short Account of the Big Trees of California* from 1900, produced by the U.S. Department of Agriculture, Division of Forestry (led at the time by Pinchot), these trees can be found “nowhere else in the world.” This treatise opens with a series of Big Tree facts that are echoed across many of these publications. Along with age and scale, this list adds both the imminent threat from logging and the rarity of these trees:

1. The dimensions of the Big Tree are unequaled.
2. The age of the Big Tree makes it the oldest living thing.
3. The majestic beauty of the Big Tree is unique and world-renowned.
4. It now exists only in ten isolated groves on the west slope of the Sierra Nevada Mountains, and nowhere else in the world.
5. The Mariposa Grove is to-day the only one of consequence which is completely protected.
6. Most of the scattered groves of Big Trees are privately owned, and therefore in danger of destruction.
7. Lumbering is rapidly sweeping them off; 40 mills and logging companies are now at work wholly or in part upon Big Tree timber.<sup>153</sup>

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<sup>152</sup> Even though rail travel was the main form of transportation until the automobile revolution, “... the United States resisted rail-based transportation inside the national parks, considering railroads, as a part of industry, much too dingy and invasive.” See Alfred Runte, *Trains of Discovery: Western Railroads and the National Parks*, Fourth Edition, Revised (Boulder, Colorado: Roberts Rinehart Publishers, 1998), 50-52.

<sup>153</sup> *A Short Account of the Big Trees of California*, Bulletin No. 28 (Washington, D.C.: US Department of Agriculture; Division of Forestry, 1900), 5.

Even if the photographs in these illustrated books feature stationary, living, and protected trees, there is still a considerable emphasis on transportation and movement. If the two previous two chapters consider how massive trees might themselves move through space, National Park tourism necessitated the movement of tourists to the site of the Big Trees, as well as enabled the movement of tourist images via illustrated books, postcards, and stereographs. These materials effectively reduce the giant trees to the size of the page, rendering them compact and transportable. Even if the referent trees remain in place in their groves, their images take on the ability to move freely, traveling through the mail and into the domestic space of the living room viewer who may visit the Big Trees without ever stepping foot in these parks.

In Southern Pacific's *Big Trees of California*, we see the modern confrontation between the automobile and the Big Tree, which entails a new level of tourist autonomy and ability to move freely. The caption for this image underscores this encounter as the connection of two distinct historical eras: "The tree and the auto! It is a far cry from the birth of the tree to the motor car. A gap of probably fifty centuries".<sup>154</sup> As mentioned above, one of the iconic and widely reproduced views in these books is the movement of vehicles through the Big Tree groves, and particularly through the Wawona Tunnel Tree. Again, these images recur across the different genres represented by these books, perhaps emphasizing a more friendly (or even wholly natural, in the case of tunnel trees hollowed by fire) intervention as opposed to the fatal manmade undercut.<sup>155</sup>

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<sup>154</sup> *Big Trees of California* (San Francisco, CA: Passenger Department, Southern Pacific Company, 1914), 29.

<sup>155</sup> Example of copy suggesting immortality if the trees are properly protected. *Big Trees of California* (Southern Pacific), 12.

While logging photography participates in a genre of pictorial trophies, which showcase the loggers' dominion over the trees and celebrates the feat of felling, tunnel tree images rather emphasize the endurance and robustness of the tree, even if hollowed out. The popularity of the Wawona Tunnel image also suggests, per Earl Pomeroy's observation in his book *In Search of the Golden West: The Tourist in Western America*, that it is this incursion into the tree that takes it from natural wonder to iconic attraction worthy of a tourist snapshot: "One of the great merits of the [Big] trees was that one could have his picture taken with one of them, preferably one made more interesting by death, fire, or piercing."<sup>156</sup>

One challenge of these popular double portraits is the sheer size of the Big Trees. The enormous scale of the Grizzly Giant sequoia, for example, made it difficult to perceive the figure posed at the tree's base in Carleton Watkins's full views of the tree, as opposed to his zoomed-in "Section," which omitted much of the tree's impressive trunk and limbs. Many of the images in the Southern Pacific guidebook, as well as in the similar magazine essays featured in early issues of "Sunset" magazine, feature Cavalry Troop F posed inside, at the base, and on top of the Big Trees of the Mariposa Grove. These shots provide a potent point of scale (the rider mounted on horseback) that is more legible than a single person stationed at the tree's base, also but give a sense of a linear journey as the Troop passes through the grove as a prospective tourist might.<sup>157</sup>

The cavalry also presents an interesting point of comparison to loggers as co-subjects in these images — rather than picturing the agents who brought down the tree,

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<sup>156</sup> Earl Pomeroy, *In Search of the Golden West: The Tourist in Western America*, Second Edition (Lincoln: Bison Books, 2010).

<sup>157</sup> Paul Shoup, "The Sequoias of California Forests," *Sunset* 3, no. 6 (October 1899): 182.



viewers are instead faced with a protective force. Even if saved from the fate of being logged, these trees were still subject to the more casual, sporadic destructive force of tourists: “often, sightseers removed bark from the trees as souvenirs or carved their names into the sequoias. The ‘General Grant Tree,’ the centerpiece of the reserve, was heavily damaged by its admirers, who shot arrows into it or carved (or even burned) inscriptions into its trunk.”<sup>158</sup> The Calvary served therefore as proto-Park Rangers, providing a necessary service in protecting the grove.

The scale of the Big Trees was not only denoted in photographs by groups passing through hollowed out trees, aligned at the base of a massive trunk, or even parading down the length of a fallen tree, but through juxtapositions with massive infrastructure of the industrial age. One advertising image for the Southern Pacific is composed of a montage depicting the Wawona Tree plunked in the middle of Broadway in Manhattan next to the Flatiron building, with streetcars passing through its tunnel. The copy accompanying this constructed image reads:

The famous Big Tree in the Mariposa Grove, near Yosemite Valley, is 400 feet high. Scientists say its age exceeds 9,000 years. If placed at the junction of Fifth Avenue and Broadway it would fill Broadway and overtop the new Flatiron building by 114 feet. Cut into one-inch boards it would entirely sheath the building on all sides.<sup>159</sup>

Scale is also frequently inferred with the use of creative material similes, as demonstrated by the Flatiron advertisement copy. These comparisons, which celebrate material abundance, serve to both marvel at the size of the tree while bringing it into direct

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<sup>158</sup> Kathy S. Mason, “Buffalo Soldiers as Guardians of the Parks: African-American Troops in the California National Parks in the Early Twentieth Century,” *The Historian* 81, no. 1 (March 1, 2019): 87.

<sup>159</sup> Reproduced in Runte, *Trains of Discovery: Western Railroads and the National Parks*, 32.

comparison with man-made industrial achievements. These achievements are also uniquely American, indicating an American exceptionalism through its industrial progress and remarkable infrastructure, coupled with its unrivaled Western landscapes.

The Southern Pacific's guidebook variously suggests that a tree could produce enough lumber to build a box that would house the Lusitania, while also invoking American History, asserting that "Abraham Lincoln, splitting 150 rails in a ten-hour day, would have been kept busy with this fallen giant for several years."<sup>160</sup> While these allusions commend the inimitable scale of the tree, there is also an inherent violence, and an almost rueful attitude towards the resources lost to conservation that otherwise could be of particular use to the railway company: "Enough lumber here to make one telegraph pole forty miles high or to supply a line of poles from Kansas City to Chicago"; "'Old Goliath' in California Park might have produced 40,000 rails of average size, or 800 miles of total length."<sup>161</sup> The former example of the Flatiron advertisement adopts some of the language of the hunt as we might see in the logging images — entailing the felling of the tree, milling it down into boards, and sheathing the Flatiron like a pelt.

Wonderment at the age of the tree is also evoked through historical allusion and the imagining of trees as living witnesses. Together with the visual tropes that pair trees and industrial monuments, there is an intermingling of the natural world with human history and culture. In one caption, the Southern Pacific guide questions: "'Tongues in trees', said Shakespeare. What stirring stories could these ancients tell from their five thousand years of world watching."<sup>162</sup> In another, scale and age combine: "These trees

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<sup>160</sup> *Big Trees of California* (Southern Pacific), 13, 23.

<sup>161</sup> *Big Trees of California* (Southern Pacific), 18, 23.

<sup>162</sup> *Big Trees of California* (Southern Pacific), 10.

were living towers when Cheops dreamed of building pyramids.”<sup>163</sup> These captions do much heavy lifting to situate these images and guide the particular interpretation of awe. Unlike cross-section images which provide neat visual evidence as to the sheer age of these trees, there is no similar pictorial indicator of age for living and standing trees, so these captions and examples of advertising copy must make explicit what photographs cannot.

A similar strategy is deployed in a postcard advertising the Pacific Mutual Life Insurance Company. This color postcard features an illustration of the Wawona tree, surrounded by small vignettes of historical events. The tree is captioned “‘Wawona’ Oldest Living Thing / Historical Events During Its Lifetime,” and circled by scenes of Declaration of Independence, signing of the Magna Carta, the Nativity, the Fall of Troy, building the pyramids, the reading of the Emancipation Proclamation, the founding of Buddhism, the Exodus of the Israelites. Again, American history is both enmeshed within the history of western civilization and given exceptional status. At the top is an image of the Pacific Mutual Building, nestled among these great world events as if it holds equal importance and also brought into architectural comparison with Wawona, like the Flatiron advertisement. The back of the card reads: “The ‘WAWONA’ BIG TREE is the trademark of The Pacific Mutual Life Insurance Company of California, which was founded by Leland Stanford and associates in 1868. The age, strength, freedom from disease and decay and the perennial youth of the Big Trees of California make the ‘Wawona’ a fitting symbol of the strength and stability of the Pacific Mutual.” In

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<sup>163</sup> *Big Trees of California* (Southern Pacific), 11.

addition to his associations with Pacific life, the notorious industrialist Leland Stanford would later serve as the president of Southern Pacific Railroad from 1885 to 1890.

The success of the Wawona Tunnel tree as an iconic arboreal image was due mainly to its unique morphology that made it easily recognizable across various media, including glass flacons of Big Tree burgundy, which were produced by the California Wine Association under its “Big Trees” Brand. In addition to these glass vessels that were stamped with images of the Wawona Tunnel tree, the California Wine Association also created an iconic Big Tree of their own in 1893, by installing a forty-foot-high hollow redwood reconstruction with an adjacent wine tasting room at the Columbian Exposition. This novel display merged the wonder of passing through the Wawona tree with the joys of wine tasting to promote the wines of its membership.

The “Fallen Monarch” tree is similarly distinguished as a remarkable, yet horizontal, giant. Most images of Fallen Monarch capture it from what would be a worm’s eye view; that is, with its massive root ball closest to the viewer. While this is not a neat slice of the tree in cross-section, it still communicates the great size of the tree and also emphasizes that its felling was due to natural causes. A Southern Pacific postcard creates yet another industrial montage with one of its trains dwarfed by the massive log, with the caption “A Southern Pacific Train compared in size with one of the fallen monarchs of the forest. Note the man on horseback. On the Road of a Thousand Wonders.” If we do in fact “note the man on horseback” and compare it to the image of the cavalry posed on top of Fallen Monarch, it is evident that the postcard montage grossly exaggerates the scale of the tree, as well as the ease of rail travel to Mariposa Grove.

Remarkably, contemporary visitors to Yosemite, Sequoia, and Kings Canyon National Parks are able to recreate many of these same arboreal encounters some 120 years later. The turn of the century hardships of a journey into the Sierra Nevada via buckboard wagon or stagecoach have been replaced by the air-conditioned ease of a modern road trip, and barricades now prevent visitors from climbing on top of the trees, but the Grizzly Giant, General Sherman, and General Grant trees still stand as tall and stalwart today as they did in the nineteenth century. Their continued survival today may seem to spell victory for the preservationists and the American National Park project, which kept the threat of logging from penetrating the park boundaries and destroying these celebrated groves. Yet wildfire has no such regard for legal protection, and in the last ten years, nearly 85 percent of the Sierra Nevada giant sequoia groves have been subject to wildfire. In 2021 alone, “the combined loss from the KNP Complex and Windy fires is estimated to be 2,261 to 3,637 large sequoias that have already been killed or will die in the next three to five years, or 3 to 5 percent of the sequoias in the entire Sierra Nevada population of large sequoias.”<sup>164</sup> The very survival of the giant sequoias may depend on keen forest management and conservation strategies, as well as the continued alliance between the National Parks and Pinchot’s Forest Service. If photography and the production of popular tourist snapshots helped to protect these public lands from overt industrial exploitation at the turn of the century, perhaps continued photographic engagement will be critical in highlighting the environmental imperilment of the groves in the face of climate change.

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<sup>164</sup> “Wildfires Kill Unprecedented Numbers of Large Sequoia Trees,” U.S. National Park Service, accessed November 11, 2023, <https://www.nps.gov/articles/000/wildfires-kill-unprecedented-numbers-of-large-sequoia-trees.htm>.

## CONCLUSION

On a Thursday afternoon in late August of 2023, the asphalt path encircling the world's largest tree hums with visitors who politely line up for their chance to have their photograph taken with the arboreal giant. Their poses range from reverent to cheeky, yet all will return home with a highly coveted and personal souvenir image. With its unimaginably wide trunk and classic name plaque, the General Sherman tree (or at least, its base) is unmistakable in these photographs; its iconicity is due to the vast archive of photographs taken from this very vantage point, creating one predominant and distinctive view of this superlative tree. Venturing out further into the Giant Forest grove and attempting to photograph its other, equally impressive, sequoia residents, the insufficiency of the camera in capturing the total magnitude of these trees becomes quickly apparent. A wide-angle lens may allow for the entirety of the tree to be contained within the frame, but only with uncanny distortion. Framing the canopy or base often lacks the necessary context to convey scale and fails to yield a complete portrait. After a day spent in the grove and having taken hundreds of photographs with a modern digital camera, few seem to truly capture the enormity and significant presence of these trees.

As briefly discussed in this project's introduction, many studies within computer science that explore methods of digitally rendering trees begin by outlining the geometric conundrum at the core of their research. These studies are challenged not only by the simulation of the tree in its general form (as an identifiable symbolic structure), but specifically by the reconstruction of the tree in its overabundant minutiae, spatial complexity, and ontological specificity. As technologies become increasingly more precise and allow for the rendering of more detail, this only seems to scale the issue, and

the task at hand becomes even more difficult. There exist significant points of failure in our ability to depict the seemingly modest tree, or, to put it another way, an ever-present yearning for something better in the way of representation, something more realistic, something of a deeper mimetic connection between subject and its depiction. As these studies and technical manuals reveal the limits of representation and visibility, they also seem to indicate more profound limits on what we may know or apprehend of the natural world.

This dissertation project considers the ways in which the Big Tree, as a photographic subject, eludes complete representation. The introduction of the medium of photography in the mid-nineteenth century offered new possibilities of representation, and, in the case of the Big Trees, was generally preferred over painting and other manual forms of visual representation. Yet, photographs of the Big Trees almost always entail substantial cropping and selective framing or rely upon the physical dissection and transformation of the tree. In many ways, this project is an exploration of the ways in which photography effects various visual and material deconstructions of the tree.

To conclude this project, I will explore how contemporary visual media take on the challenge of depicting the Big Trees, connecting these practices to the history of Big Tree photography discussed in the prior chapters. Similarly to photographs and stereographs of the Big Trees, which engrossed their nineteenth century audiences with their extraordinary compositions and the simulation of three-dimensionality, the use of time- and web-based media in the news and on social media platforms drives viewer interest through interactivity. Like their nineteenth-century counterparts, these outlets seek out the tallest, largest, and oldest living trees. They also leverage these superlative

trees in order to anchor conversations that may have begun in the nineteenth century, but which have a marked urgency in the twenty-first: ecological preservation, climate change, the perils of clearcut logging, and explosive wildfires.

These modern depictions of the Big Trees, even if largely supported by digital technologies, still make use of formats and techniques familiar since the nineteenth century. 121 years after its first issue in 1888, National Geographic Magazine employed a six-page fold-out in its print edition to depict a 300-foot-tall redwood from Prairie Creek Redwoods State Park in California. By making use of this notoriously racy format — the centerfold image — this October 2009 feature not only allowed for a much larger print image, but also shifted the viewing axis ninety degrees, requiring the reader to lift and rotate the magazine in space, therefore physically engaging with the static image. The image presented in the fold-out was the product of a complex digital collage of 83 separate photographs, carefully stitched together in photo-editing software by the photographer, Michael “Nick” Nichols. The use of collage not only suggests that no single photograph could capture the totality of the tree, but also indicates the authority of the magazine, who presented this crafted, composite image to a trusting (rather than a cynical, doubting) audience.

Both Nichols and the essay’s picture editor, Ken Geiger, attest to the impossibility of capturing this tree photographically, due to its great scale. Geiger states that it “was an impossible view — the photographic equivalent of reaching Mars. You couldn’t see the tree that clearly even if you rented a helicopter.”<sup>165</sup> Nichols, in an online video produced

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<sup>165</sup> Cathy Newman, “Unique Trees from Nat Geo’s Photo Archives Mark Amazing Moments,” National Geographic, April 28, 2022, <https://www.nationalgeographic.com/environment/article/unique-trees-from-nat-geos-photo-archives-mark-amazing-moments>.



by National Geographic, notes that “The scientists that study these trees, this is their favorite tree. It’s the most complex architectural tree on earth that’s known, but photographing it is nearly impossible.”<sup>166</sup> The tree, unnamed and only described as being a massive redwood in Prairie Creek Redwoods State Park, could possibly be Hyperion itself, allegedly the tallest tree in the world. While Hyperion’s precise location is an open secret, sufficient numbers of visitors to the tree have begun to cause irreparable damage, prompting the National Park Service to threaten six months jail time and a \$5,000 fee to anyone who attempts to find the tree.<sup>167</sup>

In order to achieve this impossible image of a secret tree, Nichols and his team rigged three separate cameras on a dolly that descended from the canopy to the ground.<sup>168</sup> The resulting image represents a hyperreal perspective that is most easily read by scanning the image from top to bottom. There are visible artifacts of the collage process, shown as skips and jogs in the neighboring tree trunks. Four figures are posed at the base, on the trunk, and at the crown of the tree, punctuating the magnitude of the subject. The very top of the tree, with its “complex architecture” is seemingly distorted and squat — a testament perhaps to its great height. Since Nichols’s rigging entailed running a lead wire from the top of the subject tree to the top of its neighbor (seen at the center top edge of the image), and since his subjects are superlatively tall trees, the three dolly cameras

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<sup>166</sup> *Redwoods: The Tallest Trees* | *National Geographic* (National Geographic, 2009), <https://www.youtube.com/watch?v=C9LHjV48e9s>.

<sup>167</sup> Associated Press, “California: Visitors to World’s Tallest Tree Face \$5,000 Fine and Possible Jail Time,” *The Guardian*, August 2, 2022, <https://www.theguardian.com/us-news/2022/aug/02/california-redwood-hyperion-worlds-tallest-tree>.

<sup>168</sup> Claire O’Neill, “Biggest, Tallest Tree Photo Ever,” *NPR*, September 29, 2009, <https://www.npr.org/sections/pictureshow/2009/09/redwoods.html>.

would need to be angled up at the top of the tree rather than shooting them from a parallel vantage point.

In a second, twin feature from December 2012, Nichols was tasked with creating a collage image of the President tree in Sequoia National Park. If coastal redwoods represent the tallest trees in the world, sequoias are the largest by volume, and the President is second largest only to the General Sherman tree. Using the same technique as the Prairie Creek tree, Nichols recounts how his team would “shoot a crossbow to the top of our tree and the top of another tree and that lets the cameras drop down in space.”<sup>169</sup> This second composite required 126 images and has the same skips and jogs that reveal the process of its creation. This shoot also produced a remarkable second image of three figures dangling in space from a branch large enough to be a substantial tree in its own right. Both tree images, the President and the Prairie Creek tree, were used for the covers of the magazine for their respective issues, each “breaking” through the classic yellow National Geographic frame, emphasizing how each tree is unable to be contained in a single standard photograph. The later issue also had a digital magazine edition for National Geographic's iPad app. Nichols describes how the cover of the digital counterpart featured the digital animation of the 126 frames coming together to create the composite image, again emphasizing the image’s composite origins as critical to successfully depicting the massive tree.

Both magazine essays celebrate these magnum tree portraits and their feats of historic growth and survival. The tone of each is largely optimistic, yet the ecological threat of clearcutting and the loss of old growth forest through logging is foregrounded in

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<sup>169</sup> *Super Trees: Climbing a Giant Sequoia* | *Nat Geo Live* (National Geographic, 2013), <https://www.youtube.com/watch?v=pBpmb4RAYgs>.

both. “Super Trees” opens with a striking and deeply suggestive image of a spotted owl flying towards the viewer, the classic symbol of the timber wars of the 1980s and 1990s, and charts the rise and fall of the logging industry in California.<sup>170</sup> “Forest Giant” includes a Kinsey-esque image of two loggers posed in a massive undercut from the early 1900s, a fitting counterpart to Nichols’s images of men dangling from the President in brightly colored winter coats.<sup>171</sup> Nichols’s high tech set-up also bears similarity to Darius Kinsey’s massive tripod — both allowing the camera(s) to be positioned high off the ground to shoot laterally rather than raking upwards (with the exception of the crown, in the case of Nichols’s set-up).

A similar presentation of the whole tree was featured in a 2021 digital essay series titled “Invisible,” in which the Washington Post explored six case studies in greenhouse gas emissions. These essays, presented in web magazine format, crafted their narrative through a combination of photojournalism and interactive features paired with text. The webpage for the December 2021 essay from this series titled “This tree has stood here for 500 years. Will it be sold for \$17,500?” features a somewhat grainy image of an evergreen forest canopy as its background. It is only when the reader begins scrolling through the webpage that it becomes apparent that this is not a static image, but rather a video shot by Washington Post photojournalist Salwan Georges. The shot gently tracks down the trunk of the tree, from the crown to the base as the reader scrolls and reads. The essay proceeds in gray boxes of text and images that float above this video.

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<sup>170</sup> Joel K. Bourne Jr., “Redwoods: Super Trees,” *National Geographic* 216, no. 4 (October 2009): 28–59.

<sup>171</sup> David Quammen, “Scaling a Forest Giant,” *National Geographic* 222, no. 6 (December 2012): 28–41.

As the essay slowly unfurls paragraph by paragraph and the background image tracks down the trunk of the tree, the text outlines the great height (180 feet) of the Sitka spruce depicted, from Tongass National Forest in Alaska, and its material value if it were to be felled and milled. This feature also makes explicit the tree's great ecological value, as it traps "nearly 12 metric tons of carbon [while] its roots and the soil below would hold another 1.4 tons."<sup>172</sup> This immensely important environmental aspect poses a challenge to representation: how to make carbon emissions visually compelling, matching the urgency of the essay series. As the argument is laid out conclusively for the preservation of this critical tree, the video reaches the base of the tree, and it is revealed that the tree has been marked with blue spray paint and is therefore destined to be cut down.

This dramatic unfolding of video and text is possible due to the use of the parallax effect. The parallax effect emerged as a popular web style in 2011 as a result of the new multimedia and graphical possibilities ushered in with HTML5. With parallax, the background of a webpage moves at a slower rate than the foreground, creating an engrossing and interactive experience for the webpage viewer.<sup>173</sup> Rather than structuring web pages to provide as much information as possible "above the fold," this effect both encourages and rewards the viewer for the act of scrolling.

In the example of this Washington Post article, the perennially challenging aspect ratio of the tree is neatly mapped onto the structure of the web page itself, and used for

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<sup>172</sup> Juliet Eilperin, "This Tree Has Stood Here for 500 Years. Will It Be Sold for \$17,500?," Washington Post, accessed December 31, 2021, <https://www.washingtonpost.com/climate-environment/interactive/2021/tongass-national-forest-old-growth-tree-climate/>.

<sup>173</sup> Ruoxu Wang and S. Shyam Sundar, "How Does Parallax Scrolling Influence User Experience? A Test of TIME (Theory of Interactive Media Effects)," *International Journal of Human-Computer Interaction* 34, no. 6 (June 2018): 533–43.

dramatic effect as the reader finally arrives at the base. The use of what appears to be drone photography for the creation of this video allows the viewer to descend via a previously unthinkable vantage point and trajectory. It also allows the video to be calved from the article itself and reproduced across social media sites that increasingly favor and promote the video format over photography.

A related use of parallax to link arboreal images and environmental concern is seen in the example of an opinion piece in the New York Times from July 2022. This essay also takes a 500-year-old tree as its subject, here exploring the tree as a living, personified witness to climate change: “This 500-Year-Old Tree in California Has a Story to Tell.” This webpage adds a horizontal axis to the otherwise vertical web feature, which draws the viewer to the right through a graphical timeline of microscopic tree rings. This technique is borrowed from online advertising and marketing, and typically requires the viewer to scan sideways before proceeding to the remainder of the essay in an attempt to force the viewer to engage fully with the advertisement or content.

The Times timeline graphic begins in 1538, training the reader on the microscopic appearance of typical growth cycles, as well the effect of rainy seasons and drought, on a Douglas fir from Mount Pinos, near Los Angeles. This not only sets up the possibility of a reveal, as in the spray paint mark on the trunk of the Tongass spruce (we can already assume that climate change will have a dramatic appearance when the graphic reaches the modern era), but also teaches readers to interpret the rings for themselves, to appraise the visual evidence presented as if on a jury:

Recent years have brought scant precipitation. Its growth between 2013 and 2016 is just a thin sliver of tissue, with as few as three cells forming in as many years. We

took this sample in July 2021, after the tree should already have been growing for months. No sign of cells indicating new growth could be seen.<sup>174</sup>

The drama of this conclusion is heightened by the prior graphical interaction, which generates a sense of immense scale, particularly in the jump cut between 1586 to 2002; the tree is simply too old and too massive to scroll through the entire cross section at a microscopic level. This use of parallax and web scrolling in order to examine a non-destructive core sample uniquely allows for the communication of the tree's great size and age without cutting open the tree to create a cross-section slice.

Popular Instagram accounts celebrating trees also approach preservation through personification, again marking a shift from the material commodification of the tree to an imagistic dispersal via social networks. One such account is the Gathering Growth Foundation, a project created by photographer and archivist Brian Kelley with the stated aim of “working to visually preserve the legacy of trees and forests, while creating awareness around the importance of preservation.”<sup>175</sup> As part of its mission, Gathering Growth sets out to document Champion Trees, those trees which have been identified as the largest of their species. This category broadens the typical cohort of redwoods and sequoias most frequently identified as Big Trees, allowing for the inclusion of deciduous examples from across the United States. Each post on Instagram features a slideshow of images highlighting a particular tree, often including Kelley himself at the base of the tree. Although Kelley makes use of traditional photographic techniques to capture these

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<sup>174</sup> Daniel Griffin, “Opinion | This 500-Year-Old Tree in California Has a Story to Tell,” *The New York Times*, July 20, 2022, sec. Opinion, <https://www.nytimes.com/interactive/2022/07/20/opinion/ancient-trees-climate-change.html>.

<sup>175</sup> @gatheringgrowth on Instagram. Gathering Growth, accessed September 21, 2022, <https://www.gatheringgrowth.org>.

trees, using large format film, he hosts his project primarily online and on Instagram.<sup>176</sup> These images are then tactilely interacted with by the user, who must physically touch and slide their fingers across their phone's screen to operate the application. Similar to the interactivity prompted by parallax features, Instagram is navigated by continually scrolling through a vertical feed. Upon reaching one of the Gathering Growth posts, a user would then swipe sideways to navigate through the image gallery. The pace and order of viewing is entirely directed by the user.

In each of these examples, interactivity not only drives engagement with these images of the Big Trees but captures the viewer or user's attention in order to put out a call to action. While these images may still provoke feelings of wonderment and provide entertainment to their audiences, their primary intent is to raise an alarm about climate change and other imminent environmental and human threats. Just as in the nineteenth century, they also invoke the great age and scale of these trees, which have existed for many hundreds or even thousands of years before the moment of their decisive capture photographically.

The photographs discussed in this project all represent the briefest of moments within the lifetime of the tree, moments so infinitesimally quick that they would not even register among the tree's growth rings. In the case of undercut and logging images, which capture the moment of the tree's certain demise, there will be no more growth. Yet these new digital images also pose a question as to the future of these imperiled trees. From the microscopic to large-scale collages, they contain a density of information that was

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<sup>176</sup> Kelley's photograph of a Great Basin bristlecone pine was featured on the cover of Patagonia's fall 2023 print magazine, making the jump from the web to a print publication.

unimaginable in the nineteenth century; coupled with the urgency of so many threats to the existence of the Big Trees, they are generating a very necessary and highly detailed archive of the forest. It is possible that within my lifetime, these photographs may be all that remain of the arboreal giants.



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