

U.S. Forestry in the Philippines:  
Environment, Nationhood, and Empire, 1900-1937

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A dissertation  
submitted in partial fulfillment of the  
requirements for the degree of

Doctor of Philosophy

University of Washington

2014

Reading Committee:

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Program authorized to Offer Degree:

History

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## **Abstract**

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During the early twentieth century, U.S. forestry officials and Filipino/a allies established new foundations for forest management and resource use in the Philippines. American forestry advocates deployed colonial forest management to both legitimate U.S. imperialism and strengthen claims for state power at home. In both the colony and the metropole, Progressives argued that scientific forestry provided for stable economies, efficient resource use, and the defense of the collective good. An essential part of U.S. colonial forestry was the expansion of capitalist development and the collection of environmental knowledge of the tropics. But, as U.S. forestry officials sought to commodify and manage Philippine forests, they were forced to contend with unknown and challenging environmental conditions that shaped how forest use unfolded. By examining the advent of U.S.-led state forestry, the development of forestry practices, and the social relations between the Americans and Filipino/as who worked in the forests, this dissertation offers a look at how environmental management emerged as a key element in state-, nation-, and empire-building regimes during the twentieth century.

Furthermore, as part of the U.S. civilizing mission in the Philippines, forestry officials brought with them perceptions about Filipino/as and Philippine society that permeated every aspect of forest management. U.S. forestry contained specific notions of race, gender, and class status that appealed to some Filipinos who saw themselves as caretakers of a new nation. However, some in the Philippines, such as shifting agriculturalists, became outsiders in the new forestry regime. This work examines how Americans and Filipino/as structured the new social world of forest management in the Philippines.

## Table of Contents

	Page
Introduction: The American Colonial Imagination.....	1
A Nexus of Capital and Collectivity	5
Forestry and American Empire in History	13
Approaches: Environments and Scales of Space	19
Sources	29
Chapter Outline	30
 Chapter One: Forestry, Capitalism, and the American Civilizing Mission.....	 37
Forestry and Traditional American Land Use	43
Forestry as a Mission to Western Lands	62
Conclusion – “The finest piece of work”	91
 Chapter Two: Modernizing the Timber and Lumber Industries: Labor, Transportation, and Machines.....	 95
Wage Work by Any Other Name	101
Methods and Machines	125
Conclusion	154
 Chapter Three: U.S. Forestry and the Dipterocarp Revelation in the Philippines.....	 159
The Promise of Biodiversity: Tropical Abundance	165
The Problem of Biodiversity: Over-Abundance	173
“The Original Mother Type”	196
Conclusion	216
 Chapter Four: “The Land Question”: State-Capital Cooperation and Uncooperative Environments and Peoples.....	 220
Drawing Lines: Licenses and the Bona Fide Forest User	225
Separate Public Spheres	248
<i>Kaingins</i> and a Nationalist Narrative of Threat	255
Ipil-Ipil: Finding Hope in a Good Colonizer	278
Conclusion	289
 Chapter Five: The Spirit of Service: Education, Optimism, and Esprit de Corps in the Philippine Bureau of Forestry.....	 294
“Specialized Technique” and “the Yale Spirit”	300
The Right Stuff	312
Making Men in the School of Forestry	330
Conclusion	349
 Conclusion: Measures of Prosperity.....	 352
 Bibliography.....	 364

## Acknowledgments

“It is difficult to begin without borrowing,” wrote the American philosopher, Henry Thoreau. Indeed, I have borrowed much to complete this work. I was fortunate to study among a community of talented and generous scholars at the University of Washington. Linda Nash served as my primary adviser reading drafts, offering insightful critiques, and providing careful guidance. Many of my central interests and questions have been honed through conversations with her and she undoubtedly will find a number of her own ideas reflected in this work. Alexandra Harmon has been an adviser and mentor since before graduate school. Beginning with my first undergraduate course with her, Sasha shaped a raw and clumsy student into a more thoughtful inquirer. She has performed a heroic effort editing my work and teaching me to be a more disciplined writer. Vicente Rafael has always been an enthusiastic supporter of my work. He introduced me to concepts and literatures that challenged and engaged me, and in 2008, he graciously took me on a tour of Manila and showed me areas of Binondo and Quiapo that I would not have known otherwise.

I have also benefitted from courses and conversations with other members of the UW’s Department of History including Stephanie Camp, Susan Glenn, James Gregory, Moon-Ho Jung, Richard Johnson, and Quintard Taylor. By illuminating connections among fields, methods, and concepts, these scholars enriched my scholarship and established a firm foundation for my intellectual development.

I would also like to thank my friends and fellow graduate students for their time and energy. Christopher Herbert, Jon Olivera, Alan Lumba, Sarah Lindsley, Joe Bernardo, and Juned Shaikh all helped me work on concepts and create useful frameworks for chapters. Alex Morrow and Jessica Lee were especially instrumental in the process of writing the dissertation. Meeting in the East Asia Library, we badgered one another into making choices, staying on task, and finishing chapters. There is a real possibility that this work would not have been completed, at least in the time frame that is was, without their help.

During 2008, I was privileged to receive the Social Science Research Council's Dissertation Proposal Development Fellowship. The students and faculty I worked with shaped the questions and ideas that placed this project on its way. Thanks are due to all of the participating students of the STS cohort who discussed my project at length and in interested detail. I am particularly appreciative to my faculty advisers, Shiela Jasanoff and Clark Miller, who challenged me to think in new ways about the project.

I was aided at a number of archives by resourceful and helpful staff including the Library of Congress, National Archives, National Agricultural Library, Cornell University, and the University of Washington. But nowhere was I more at home and valued as a colleague that at the Forest History Society in Durham, NC. Steve Anderson and the FHS provided needed funds. Staff members Andrea Anderson, Katherine Cox, Eben Lehman, and James Lewis supported me at every turn. In particular, thanks are due to Cheryl Oakes who is one of those rumored archivists who can open up important directions in a project simply through her keen mind and finely-tuned skills.

Many friends have shared their strength and spirit with me, performing in key moments the mental and emotional heavy lifting to keep me on track. Ken Shima has been a trusted and true friend who regularly offered confidence and courage when I most needed them. Several colleagues and friends at Wake Forest University contributed moral support and intellectual development. Ben Coates, Sean Dunwoody, Monique O'Connell, Nate Plageman, Emily Wakild, and Heather Welland all offered valuable insight and supportive friendship.

Lisa Blee often believed in my ability to complete this work more than I did, and she saw this project and my own development as a scholar through years of obstacles and challenges. She read many portions of this work and commented on my ideas and writing. It was only finished with her help. My own professional successes are due in large part to following her example and accepting her words of encouragement.

## Dedication

*To Pam, Martha, and Patsy,*

*and to Paul, Dale, Tony, Karen H., Bev G., Karen L., Dagny, and Bev E.*

*for unyielding belief and light shoving.*

## Introduction: The American Colonial Imagination

“You can start a prosperous home by destroying the forests,  
but you cannot keep it prosperous that way.”<sup>1</sup>

- T. Roosevelt (1903)

When President Theodore Roosevelt addressed the Society of American Foresters (SAF) in 1903, he used the metaphor of nation-as-house to link two elements of forestry ideology: on the one hand, forests most important function was as the raw materials for nation-building, and, on the other, forests must be preserved in order to sustain national prosperity.<sup>2</sup> Roosevelt could make such a linkage because he and other U.S. politicians at the turn of the twentieth century imagined themselves at the apex of a progressive history of social stages where they served as the architects of human advancement.<sup>3</sup> Roosevelt’s words retained a progressive view of U.S. social and economic development set within an abbreviated history of forest use. As others had before, Roosevelt excused Americans’

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<sup>1</sup> Theodore Roosevelt, “Forests and Forestry,” From a speech delivered before the Society of American Foresters March 26, 1903 and printed in *Proceedings of the Society of American Foresters* Vol. 1, No. 1 (May, 1905), 4.

<sup>2</sup> This is not meant to engage in the now less than useful debate: conservation vs. preservation. Char Miller has made the point that Roosevelt successfully combined the two aspects of environmentalism, but in this case Roosevelt knew his audience and argued for forests’ utility. See Char Miller, *Gifford Pinchot and the Making of Modern Environmentalism* (Washington DC: Island Press, 2001), 169-173. For more on this discussion see Richard White, “American Environmental History: The Development of a New Field,” *Pacific Historical Review* 54, No.1 (1985), 309-310.

<sup>3</sup> By “progressive history,” I mean the eighteenth and nineteenth century continental philosophy of history that stated a universal human nature directed civilizations through incremental stages of development based on the writings of Montesquieu, Rousseau, and Kant, among others, and further developed by A. Smith, Hegel, Marx and Engels, and L.H. Morgan among others. G.P. Marsh also expressed such a progressive view of American history in *Man and Nature*, 40 and 47. See also David Lowenthal, *George Perkins Marsh: Prophet of Conservation* (Seattle: University of Washington Press, 2000), 99; Gail Bederman, *Manliness and Civilization: A Cultural History of Gender and Race in the United States, 1880-1917* (Chicago: The University of Chicago Press, 1995), 25-31.



past assaults on their forests citing the virtuous American drive for material gain.<sup>4</sup> But, Roosevelt also believed that the destruction of the forests must end, and a new stage of society – a period when wastefulness would give way to efficiency – must be ushered in. Roosevelt’s words to the SAF illuminated the difficulties of including social and environmental reforms within capitalist expansion during the twentieth century.

However, Roosevelt’s theory of social advancement elided the fact that the United States had recently acquired an overseas empire. How would the colonial Philippines fit into Roosevelt’s notions of progressive history? The U.S. annexation and occupation of the Philippines relied in part on Americans’ desires to both exploit and manage valuable foreign resources. As historian J.R. McNeill has recently explained, during the late nineteenth and early twentieth centuries, colonial administrations regularly added scientific environmental management to their agendas of commercial exploitation of colonial resources.<sup>5</sup> This combination of agendas was what Frederick Lugard called, in 1922, the “dual mandate” of the British imperial policies in Africa – the effort to make the empire pay through the acquisition of tropical resources and “the idealistic fervor to establish a new order of international liberty and justice.”<sup>6</sup> For Americans in 1900, civilizing the Philippines included bringing valuable resources into production, which

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<sup>4</sup> I am using America(n) and United States(U.S.) interchangeably to avoid repetition, not because I am unaware of the problem, as Paul Kramer has said, of “using a hemispheric designation for a national one.”

<sup>5</sup> J.R. McNeill in Alfred W. McCoy and Francisco A. Scarano, *Colonial Crucible: Empire in the Making of the Modern American State* (Madison, WI: University of Wisconsin Press, 2009), 475.

<sup>6</sup> Margery Perham in Frederick Lugard, *The Dual Mandate in British Tropical Africa* 5<sup>th</sup> ed. (London: Frank Cass & Co., 1965 [1922]), xxix. See also Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil* (London: Verso, 2013), 86. Paul Kramer also assess the “dual mandate” in the colonial Philippines. See Paul Kramer, *The Blood of Government: Race, Empire, the United States and the Philippines* (Chapel Hill, NC: The University of North Carolina Press, 2003), 159-228. Paul Hirt uses a similar framework for exploring U.S. forestry policy after World War 2 in Paul Hirt, *A Conspiracy of Optimism Management of the National Forests since World War Two* (Lincoln, NE: University of Nebraska Press, 1994), xix.

benefited American capitalists, and instituting a highly bureaucratized colonial state to manage resources along scientific and democratic principles. Within this context, a progressive view of history presented U.S. foresters with a challenge: how to fit Roosevelt's teleology with the colonial Philippines? While Roosevelt allowed for past mistakes insofar as they generated prosperity, he failed to answer whether or not prosperity could be achieved without deforestation. Could the pre-industrial Philippines generate material success *at the same time* that it established sustained-yield forestry? U.S. forestry advocates had come to understand scientific forestry within the context of widespread capitalist exploitation and the absence of a strong state authority to manage resources. But, in the Philippines where much of the forest remained untouched by industrial capital, could U.S. forestry agents be both the architects of large capital investments and the arbiters of forest use? This was a fundamental challenge for the U.S. forestry staff transported to the Philippines beginning in 1900. Their task was to tutor a pre-industrial society and economy with the modern ideologies and practices of U.S. forestry without recreating the waste, inefficiencies, and timber shortages that plagued Americans' own forests.

This dissertation assesses U.S. forestry officials' attempts to foster imperial capitalist development and institute Progressive social and environmental reforms in the colonial Philippines. I begin by taking the tension between forestry officials' multiple goals seriously instead of privileging any one goal as more genuine than others. For example, instead of understanding capitalism as a solitary or over-riding force that motivated colonial forestry officials, I examine capitalism's heterogeneity – its dependence on space and time. Even as forestry officials were committed to introducing

wage labor and industrial machinery, inviting large capital-intensive logging operations to the islands, and generating new commodities in Philippine forests, much of their work, interests, and personal relationships cannot be understood through market relations. Similarly, social and environmental reforms presented some challenges to older American modes of production even as they remained wedged within a capitalist structure. Though the Progressive reforms required new relations between the state and capital, forestry officials attempted to modify, but not replace, existing means of production. Progressivism was based in reform, not revolution. And, as with capitalism, reform notions were applied unevenly as the conditions of work, the unfamiliar environments, and the attempts to juggle colonial duties weighed heavily on the young men who went to the Philippines. As historian Paul Hirt noted about U.S. forestry in the United States, such a multifaceted agenda was “difficult to implement.”<sup>7</sup> As with any modification to social systems, tensions arose as forestry officials introduced new ideas and practices. By examining these new forestry ideas and practices at work in a colonial context, I demonstrate how the tensions between environmental reforms and existing means of production spurred social and environmental change. This approach reveals contingent and unexpected interactions of nation-building, imperial administration, and environmental management.<sup>8</sup>

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<sup>7</sup> Hirt, *A Conspiracy of Optimism*, xix.

<sup>8</sup> Greg Bankoff, “Conservation and Colonialism: Gifford Pinchot and the Birth of Tropical Forestry in the Philippines,” in Alfred W. McCoy and Francisco A. Scarano, eds., *Colonial Crucible: Empire and the Making of the Modern American State* (Madison, WI: The University Of Wisconsin Press, 2009), 479.

## A Nexus of Capital and Collectivity

It was through the capitalist exploitation of colonies such as Mauritius, St. Helena, and elsewhere that Europeans began to understand that resource extraction caused serious and potentially irreversible environmental degradation. As historian Richard H. Grove argued, European states were forced to reckon with the “destructive social and ecological conditions of colonial rule,” driving inquiries and generating new theories about human roles in environmental change. Deforestation and climate change were central to Europeans’ early observations and critiques as they noted that the removal of forests reduced agricultural productivity because of aridity, flooding, and erosion.<sup>9</sup> But even with some “scientific” observations on the dangers associated with deforestation, colonial exploitation of forests went on. As S. Ravi Rajan has noted, British imperial officials instituted sporadic, “ad hoc” regulations in scattered places throughout the empire. But these policies did not constitute widespread reform. Rather, British colonial authorities continued to view forests “as timber mines or sources of other ‘minor’ forest products.”<sup>10</sup> By the modern period (roughly after 1800), European powers increasingly sought to manage colonial peoples and resources through direct control of forests and other environments. With advancements in transportation and the opening of new

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<sup>9</sup> John F. Richards, *The Unending Frontier: An Environmental History of the Early Modern World* (Berkeley, CA: The University of California Press, 2003), 17-18; Richard Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600-1860* (Cambridge: Cambridge University Press, 1995), 486. See also Clarence J. Glacken, *Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the end of the Eighteenth Century* (Berkeley: The University of California Press, 1967); Richard Drayton, *Nature’s Government: Science, Imperial Britain and the “Improvement” of the World* (New Haven, CT: Yale University Press, 2000); Gregory Barton, *Empire Forestry and the Origins of Environmentalism* (Cambridge: Cambridge University Press, 2002).

<sup>10</sup> S. Ravi Rajan, *Modernizing Nature: Forestry and Imperial Eco-Development, 1800-1950* (Oxford: Oxford University Press, 2006), 10.

markets, European states managed more and more landscapes both for social control and for systematic economic exploitation worldwide.

American forestry advocates at the end of the nineteenth century believed that they could integrate European scientific forestry within the social, political, and economic traditions of the United States. Scientific forestry, as Americans understood it after the U.S. Civil War, had precipitated out of the attempts by European states to manage forests as unique spaces for both resource production and broader environmental stability. According to James C. Scott and S. Ravi Rajan, forestry first emerged in Europe within cameral science and governance that stressed predictable principles in the management of state finances.<sup>11</sup> Rajan writes that German forestry arose from suspected shortages of wood and the belief that it was the state's responsibility to ensure supply.<sup>12</sup> That the management of wood production and supply fell under the state's purview indicated, according to Scott, "the logic of the state-managed forest science was virtually identical with the logic of commercial exploitation."<sup>13</sup> State forest experts attempted to predict forest outputs in order to keep pace with industrialism and the market revolution that began in the mid-eighteenth century. But due to technological advancements in transportation and communication, new market opportunities, and more exploitive modes of resource extraction, capital-intensive logging, grazing, and mining generated environmental change on larger scales than had been seen before. By the nineteenth

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<sup>11</sup> James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven, CT: Yale University Press, 1998), Rajan, *Modernizing Nature*, 14 and 35. See also Keith Tribe, *Governing Economy: The Reformation of German Economic Discourse, 1750-1840* (Cambridge: Cambridge University Press, 1988).

<sup>12</sup> Rajan, *Modernizing Nature*, 36.

<sup>13</sup> Scott, *Seeing Like a State*, 15.

century, European observers linked the expansion of capital and industry with widespread environmental changes. Americans also noted that local environments degraded after industrial logging and that the prices of forest products, especially fuel wood, were on the rise. Not willing to challenge current capitalist means of production, American forestry advocates attempted to combine their faith in capitalism with a belief that scientific methods could stabilize both environments and economies for the collective good.

Americans' belief in the free expansion of capitalism has been inextricably intertwined with American geographical and cultural expansion – imperialism – since the nation's inception. From the Ohio Valley in the late eighteenth century to Nicaragua, Cuba, Texas, and California during the mid-nineteenth, Americans have perceived individual economic freedom (for some) as a prime marker of Americanism. According to historian Donald Worster, many Americans saw their image reflected in capitalist development because of its ready alignment with individual freedom and choice.<sup>14</sup> Some Americans believed it was a moral duty to carry values such as these to new territories and to teach them to non-Anglo peoples. In addition, American capitalism relied on the state to provide access to resources, to move indigenous peoples aside, and to facilitate the opening of new markets. During the late nineteenth century, capitalist means of production were changing to accommodate new technologies, more mobile capital, and labor migrations. That is, U.S. capitalism rested on older forms and some that were under development. Scholars who have emphasized capitalism as a centrally important system for understanding social and environmental change have argued that capitalism changes

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<sup>14</sup> Worster, *The Wealth of Nature*, 57.

over time and depends upon context.<sup>15</sup> The most persistent element of capitalism was its ability to stratify social relations within a market economy. Indigenous peoples and poor migrants in the American West were integrated into the market system largely as wage laborers. In addition, market relations reduced some perceptions of the material world. Religious interpretations, subsistence use, and ad hoc trade relations would all be devalued and replaced by a unifying market system. And, late nineteenth century developments in technology allowed for more rapid spread of capitalist relations as machines represented greater accretions of labor power over nature. Capitalist development in the Philippines therefore meant both the simplification of the forests into commodities that could be assigned value in the marketplace and the replacement of older means of production with American technology and machines. Capitalist expansion must be understood as one of the central organizing principles of U.S. domestic and foreign policy. For many Americans, robust capitalist expansion indicated a healthy democratic society and a moral responsibility to the world.

Some Americans' desires to pursue capitalist means of production blossomed in the American West. Beginning in the mid-nineteenth century, both U.S. and European capitalists perceived the American West as an arena for investment in minerals, railroads, timber, and livestock.<sup>16</sup> Many others without capital to invest nonetheless sought out opportunities as wage laborers, homesteaders, small-scale entrepreneurs in the region.

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<sup>15</sup> Anna Lowenhaupt Tsing, *Friction: An Ethnography of Global Connection* (Princeton, NJ: Princeton University Press, 2005), 4; Donald Worster, *The Wealth of Nature: Environmental History and the Ecological Imagination* (New York: Oxford University Press, 1993), 56-57; William G. Robbins, *Colony and Empire: The Capitalist Transformation of the American West* (Lawrence, KS: University Press of Kansas, 1994), x-xi; William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W.W. Norton and Co., 1991), 148-150.

<sup>16</sup> Robbins, *Colony and Empire*.

Although capitalist means of production provided opportunities to some more than to most, the vast resources in the American West permitted the continued hope that new opportunities lay somewhere around the bend. That hope was often frustrated. As Richard White observed, “the flood of capital” that was to bring widespread prosperity into the West “never seemed to appear,” and laborers as well as western communities often found themselves at the whims of environmental fluctuations, market spasms, and the mobility of capital.<sup>17</sup> In addition, William Robbins argued that capitalist development in the West set up a colonial relationship between eastern U.S. and European capital and the West, which remained mostly underdeveloped until after World War 2.<sup>18</sup> Nevertheless, although the majority of westerners – laborers, small entrepreneurs, and small landholders – did not see their dreams materialize in the West, capitalist means of production represented the American model of economic development there at the end of the nineteenth century.

As large capital-intensive operations began to reorder the American social and natural landscapes, Progressives and forestry advocates championed revisions to forest use. At the end of the nineteenth century, these newly dubbed “conservationists” argued that science, efficiency, and expertise in environmental management would stabilize opportunity, democracy, and the capitalist economy. As historian Samuel P. Hays has written, environmental reform was “a scientific movement” that “filled conservation

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<sup>17</sup> Richard White, *It's Your Misfortune and None of My Own: A History of the American West* (Norman, OK: The University of Oklahoma Press, 1991), 296.

<sup>18</sup> William G. Robbins, *Colony and Empire*; White, *It's Your Misfortune...*, 242-268; see also Cronon, *Nature's Metropolis*, 52-53.



leaders with intense optimism.”<sup>19</sup> They believed that they could occupy a crucial role in the industrializing and expanding nation. Through expertise, they would support capitalist investments in natural resources by using science and technology to determine the most efficient modes of resource use.<sup>20</sup> Such a melding of capitalist development, national expansion, and environmental management composed the reformist and imperialist elements of the American civilizing mission.<sup>21</sup> In addition, many who were convinced by George Perkins Marsh’s examples in *Man and Nature* (1864) warned of a coming timber crisis and a need for all American consumers of forest products to revise their habits. According to historian Donald J. Pisani, although Gilded Age literature rested on some erroneous scientific conclusions, it was correct that “the farmer, shipper, hunter, merchant, and banker all had as much stake in the woodlands as did the lumberman.”<sup>22</sup> The academics and experts who made up the environmental reform movement defined and articulated how capitalist means of production could become more efficient and offer greater rewards to all Americans.<sup>23</sup>

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<sup>19</sup> Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920* (Cambridge, MA: Harvard University Press, 1969[1959]), 2.

<sup>20</sup> Brian Balogh, “Scientific Forestry and the Roots of the Modern American State: Gifford Pinchot’s Path to Progressive Reform,” *Environmental History* Vol. 7, No. 2 (Apr., 2002), 216.

<sup>21</sup> Oscar V. Campomanes, “1898 and the Nature of the New Empire,” *Radical History Review* Vol. 73 (1999), 133.

<sup>22</sup> Donald J. Pisani, “Forests and Conservation, 1865-1890,” in Char Miller, ed., *American Forests: Nature, Culture, and Politics* (Lawrence, KS: University Press of Kansas, 1997), 26.

<sup>23</sup> There is an extensive literature on the origins of the conservation movement during the late nineteenth and early twentieth centuries. However, my goal here is not to provide a brief history of American conservation, which I provide in Chapter 1. Rather, my intention is to define what I mean by “environmental reform” during this period. For origins of conservation see Hays, *Conservation and the Gospel of Efficiency*; Hirt, *A Conspiracy of Optimism*; Char Miller, *Gifford Pinchot and the Making of Modern Environmentalism* (Washington DC: Island Press, 2001); Nancy Langston, *Forest Dreams, Forest Nightmares: The Paradox of Old Growth in the Inland West* (Seattle: University of Washington Press, 1995); Michael Williams, *Americans and Their Forests: A Historical Geography* (Cambridge: Cambridge University Press, 1989); William G. Robbins, *American Forestry: A History of National*,

For forestry reformers, the relationship between capitalist development and environmental reform should not have been a tense one. They believed and argued that capitalism and reform precipitated out of the same liberal American tradition. Few American capitalists believed this outright; most needed convincing. Logging and other forest uses in the United States had come of age without federal oversight. Capitalist means of production, most Americans could agree, had produced a prosperous nation. And, individual uses of forest resources within the public domain helped to define constructive opportunism in the West. To some, reform appeared to endanger individual freedom. Conservationists responded that the real dangers to both individual and national freedom were rising prices, wood shortages, as well as the floods, landslides, and agricultural deterioration that accompanied deforestation. Regularly invoking “the nation” as a symbol of collective interest, forestry advocates worked to convince Americans of the needs for reform. Such a conflation of robust capitalism and state power may not have been natural to the U.S. social landscape, but reformers argued that neither was it anathema to American ways of life.

In 1899, after President McKinley announced the acquisition of the Philippines as a colony, Gifford Pinchot, the new head of the U.S. Division of Forestry, spied an opportunity to advance U.S. forestry. Pinchot, more than any other figure, was responsible for articulating how forestry experts could aid capitalists while protecting “the public good.” Pinchot was a staunch defendant of utilitarianism. As he said about the United States, “The first principle of conservation is development[...] the fullest

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*State, and Private Cooperation* (Lincoln, NE: University of Nebraska Press, 1985); Gifford Pinchot, *Breaking New Ground*, (Washington DC: Island Press, 1947).

necessary use of all the resources with which this country is so abundantly blessed.”<sup>24</sup>

But Pinchot’s dedication to Progressive reforms also informed his approach to federal forestry both in the United States and in the Philippines. Imagining himself and other forestry advocates as defenders of the public good, Pinchot distrusted monopoly control of resources, hated graft and corruption in government, and drew stark distinctions between corporations that worked with federal experts and those that worked against the public’s welfare.<sup>25</sup> However, essential to Pinchot’s reform notions were his perceptions of who counted as part of “the public” in the United States and in the Philippines.

Pinchot’s public was defined by forest use and participation in the capitalist system.

Pinchot and other forestry advocates believed that most people who lived in the United States depended on forest products. But, use alone did not place one into the Progressives’ definition of the public. Instead, one had to participate by using the forest in ways specified by forestry experts. Those who did not – backwoodsmen, American Indians, rapacious capitalists – stood outside of and against the public of rational forest users. In the Philippines too, not all forest users constituted “the public;” indeed few did. Only by accepting American tutelage and using the forest within the expanding capitalist modes of production did Filipino/as enter the realm of the public. In the Philippines, as committed as U.S. forestry was to assisting capitalists with the utilization of national resources, it also sought to create a public of obedient forest users.

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<sup>24</sup> Gifford Pinchot, *The Fight for Conservation* (New York: Doubleday, Page & Co., 1910), 42.

<sup>25</sup> Pinchot, *Breaking New Ground*, 82-83 and 332-333. Robert H. Wiebe, *The Search for Order, 1877-1920* (New York: Hill and Wang, 1967), 152-153.

## Forestry and American Empire in History

The emergence of scientific forestry has been the subject of substantial and diverse scholarship that speaks to forests' importance in human history. Postcolonial scholars have emphasized that forests are essential elements of understanding colonial history. Some scholars' critiques of colonialism illuminated how state forestry agencies attempted to exert control in colonial forests and how local peoples resisted those efforts.<sup>26</sup> Scholars have also looked at the roles that forests played in "modernization" campaigns as states attempted to organize peoples and spaces through control of the forests. This literature has illuminated how publics and civil society emerged through state actions in forests, though it has overwhelmingly focused on the British empire.<sup>27</sup> Another vein of forest history may be more accurately termed "deforestation" history. A considerable body of work has investigated how global patterns of social and economic pressures on forests have reduced worldwide forest cover. This literature has shown that war, the expansion of agriculture and capitalist development, among much else, has contributed to deforestation and generated increasing social and political strife.<sup>28</sup>

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<sup>26</sup> Ramachandra Guha, *The Unquiet Woods: Ecological Change and Peasant Resistance in the Himalaya* (Delhi: Oxford University Press, 1989) and Nancy Lee Peluso, *Rich Forests, Poor People: Resource Control and Resistance in Java* (Berkeley: University of California Press, 1992).

<sup>27</sup> Rajan, *Modernizing Nature*, (2006); Jeyamalar Kathirithamby-Wells, *Nature and Nation: Forests and Development in Peninsular Malaysia* (Honolulu: University of Hawai'i Press, 2005); Barton, *Empire Forestry*; K. Sivaramakrishnan, *Modern Forests: Statemaking and Environmental Change in Colonial Eastern India* (Stanford, CA: Stanford University Press, 1999). For one exception to the British empire see Andrew S. Matthews, *Instituting Nature: Authority, Expertise, and Power in Mexican Forests* (Cambridge, MA: Massachusetts Institute of Technology Press, 2011).

<sup>28</sup> Richard P. Tucker, *Insatiable Appetite: The United States and the Degradation of the Tropical World* (Lanham, MD: Rowman and Littlefield Publishers, 2007) Michael Williams, *Deforesting the Earth: From Prehistory to Global Crisis*, (Chicago: University of Chicago Press, 2006); John Dargavel and Richard Tucker, eds., *Changing Pacific Forests: Historical Perspectives on the Forest Economy of the Pacific Basins* (Durham, NC: Forest History Society, 1992).

Within U.S. historiography, forests have also been the subject of a varied corpus. Forests and forestry have played a large role in histories of Progressive reform. Hays's foundational work illuminated how important forestry was to U.S. state formation during the Progressive period.<sup>29</sup> Subsequent administrative histories have moved beyond the federal level to show private, state, and local connections within forestry history.<sup>30</sup> Cultural histories, too, have argued that Americans' perceptions of forests shaped American identity, material success, narratives of prosperity, and conservational attitudes.<sup>31</sup> More recently, scholars have begun to place forest histories into conversation with labor history, ethnic struggles, and political activism.<sup>32</sup> While all of these works could be said to be environmental histories, one work, *Forest Dreams, Forest Nightmares* (1995), stands out as a forest history that combines the best of environmental and cultural approaches. By showing how forests' natural tendencies have often defied human

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<sup>29</sup> Hays, *Conservation and the Gospel of Efficiency*; Stephen Skowronek, *Building a New American State*; Wiebe, *The Search for Order*, 193.

<sup>30</sup> Robbins, *American Forestry*; Harold K. Steen, *U.S. Forest Service: A History* (Seattle: University of Washington Press, 2004); James G. Lewis, *The Greatest Good: A Centennial History of the Forest Service* (Durham, NC: Forest History Society, 2005); Gerald W. Williams, *The U.S. Forest Service in the Pacific Northwest: A History* (Corvallis, OR: Oregon State University Press, 2009); J.P. Kinney, *A Continent Lost – A Civilization Won: Indian Land Tenure in America* (Baltimore, MD: Johns Hopkins Press, 1937).

<sup>31</sup> Michael Williams, *Americans and Their Forests: A Historical Geography* (Cambridge: Cambridge University press, 1989); Thomas R. Cox and others, *This Well-Wooded Land: Americans and Their Forests from Colonial Times to the Present* (Lincoln, NE: University of Nebraska Press, 1985); Char Miller, ed., *American Forests: Nature, Culture, and Politics* (Lawrence, KS: University Press of Kansas, 1997); Char Miller, *Ground Work: Conservation in American Culture* (Durham, NC: Forest History Society, 2007).

<sup>32</sup> Karl Jacoby, *Crimes Against Nature: Squatter, Poachers, and the Hidden History of American Conservation* (Berkeley: University Of California Press, 2001); Jake Kosek, *Understories: The Political Life of Forests in Northern New Mexico* (Durham, NC: Duke University Press, 2006); William P. Jones, *The Tribe of Black Ulysses: African-American Lumber Workers in the Jim Crow South* (Urbana, IL: University of Illinois Press, 2005); Kathryn Newfont, *Blue Ridge Commons: Environmental Activism and Forest History in Western North Carolina* (Athens, GA: University of Georgia Press, 2012).

policies, cultural beliefs, and economic schemes, Nancy Langston's work has influenced the types of questions that I ask about forestry practices.<sup>33</sup>

My work adds to this rich literature on forestry history by showing how U.S. empire served as a pivotal experience for forestry in three ways: 1) U.S. forest management in the Philippines influenced its development at home by making colonial and tropical forestry standard within U.S. forestry academies, literature, sciences, and governance, 2) it demonstrates how U.S. Progressive forestry, with its specific social and environmental agendas, worked out in a tropical, colonial setting, and 3) it shows how the Philippine Bureau of Forestry established a framework for spreading U.S. influence through scientific environmental management beyond the Philippines in the mid-twentieth century. First, U.S. forestry in the Philippines was crucial to state-building and the future of the forest service in the United States. I build on work by William Robbins and Brian Balogh, both of whom argued that forestry officials sought cooperation with capitalists in order to achieve larger political goals in the United States. Balogh and other scholars suggest that within the United States, the "rhetoric of the market" served as a political expedient and was the best route to gaining support for political reform. Most recently, Balogh asserted that in order to promote forest reform, Pinchot used "the rhetoric of profitability" to "ensure that [his] message was not lost in translation."<sup>34</sup> Building on Balogh's work, I argue that Pinchot engaged not only the language of market relations but also the language of the American civilizing mission.

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<sup>33</sup> Nancy Langston, *Forest Dreams, Forest Nightmares: The Paradox of Old Growth in the Inland West* (Seattle: University of Washington Press, 1995).

<sup>34</sup> Balogh, "Scientific Forestry," 216.

The significance of Pinchot's embrace of U.S. colonial forestry stretches far beyond the Progressive period. Part of what made the Philippines important to conservationists in the United States was its colonial status – a place without the restrictions of U.S. representative democracy.<sup>35</sup> Federal forestry officials could implement almost any policies and practices they wanted without legislative interference or obstructions by private landholders. The colony offered the opportunity to establish radical environmental reform or throw the doors open wide to capitalist exploitation. The fact that U.S. forestry authorities embraced a capitalist agenda tempered by reform was due to the importance of the Philippines to developments at home. Conservationists could use the Philippines and the language of “benevolent” colonialism to promote their embattled forestry ideologies in the United States. Bringing the Philippines into U.S. forestry history demonstrates that colonialism was a crucial element of the expansion of federal forestry in the United States. Due to the colonial context of the Philippines, U.S. forestry officials erected a colonial forestry bureaucracy that represented ideal modern environmental management. The building of, what historian Paul Sutter has called “the environmental management state,” was thus intimately tied to the building of U.S. imperial capacities.<sup>36</sup> To demonstrate what the nation could do was to demonstrate what the empire could do and vice versa.

Second, I show how U.S. forestry worked out in a tropical and colonial setting. With Americans' first efforts at widespread environmental management abroad, they found that circumstances, peoples, and environments were not easily controlled. The first

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<sup>35</sup> Greg Bankoff, “Breaking New Ground? Gifford Pinchot and the Birth of ‘Empire Forestry’ in the Philippines, 1900-1905,” *Environment and History* Vol. 15, No. 3 (August, 2009), 369-393.

<sup>36</sup> Paul Sutter, “Tropical Conquest and the Rise of the Environmental Management State: The Case of U.S. Sanitary Efforts in Panama,” in McCoy and Scarano, *Colonial Crucible*, 317-326.

big obstacle to Philippine forest management was the training and hiring of experts, which the United States had only in short supply. Regardless of the Progressives' optimism, experts were frightened of the tropics, experienced low pay, and found the work extremely challenging. Many chose not to go to the Philippines. A related trouble was that shifts in U.S. politics at home exhausted the original Progressive enthusiasm for forestry in the Philippines and U.S. policymakers began to reduce the forestry bureau's funding after 1912. All of these problems were exacerbated by an uncooperative environment and American ignorance of the Philippine peoples and forests. Though Americans situated the Philippines within a single geographical space – “the tropics” – they knew little about the Philippines specific environmental conditions: species, soils, and weather patterns, for example. The pressure to put the forests into production forced the U.S. forestry officials to make policies and initiate plans with limited information.

Furthermore, the U.S. forestry officials' assumptions about race, class, and gender complicated the process of defining the public and supported the creation of new social divisions that weakened both the forestry bureau and its ability to support nation-building in the Philippines. Americans brought their belief in racial hierarchies with them to the Philippines even as the U.S. mission to civilize the Philippines depended upon Progressive policies of tutelage, progress, and uplift. As historian Paul Kramer has pointed out, the conflict between Americans' beliefs and their stated policies led them to rely on the category of “capacity” when speaking of Filipino/a progress and civilization.<sup>37</sup> The use of capacity allowed the Americans to divide Philippine society, empower some Filipino/as within the colonial state, and label many others in the islands as “non-

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<sup>37</sup> Kramer, *The Blood of Government*, 5.



Christians,” savages, and other monikers of outsider status. One consequence of such a social imagining was that many rural Filipino/as fell outside of the Americans’ definition of the public because of their economic standing, type of forest use (such as shifting agriculture), or their reaction to an increasingly present and powerful state. Moreover, because of the Americans’ need to empower “Christian” Filipino/as to take over the bureau and the rest of the Philippine state, and because political power in the Philippines was distributed across the provinces, only those Filipinos with political connections and the appropriate “capacity” became forestry professionals and state authorities. In 1937, when Filipinos finally occupied the highest positions in the Bureau of Forestry, they made the bureau and its influence their own even as they owed their positions of authority and social status in part to Americans’ perceptions of race in the Philippines.

Third, I show how U.S. forestry practices as state-building initiatives became essential to U.S. influence in foreign political matters. In the Philippines, the United States sought to develop forestry as a state capacity and stepped easily into the vacated Spanish colonial forestry bureau, *Inspeccion General de Montes*.<sup>38</sup> Though forestry reform remained uncertain at home, U.S. imperialists insisted that scientific forestry was essential to the political education of Filipino/as. U.S. forestry taught principles of governance and state-building through rational forest use. It also expressed U.S. interests abroad by making the identification of tropical forest commodities a basic feature of state forestry. Forestry therefore acted as another model of U.S. imperialism. After the U.S. experience in the Philippines, the United States would never again attempt the same elaborate style of colonialism. “Formal” colonialism was abandoned in favor of

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<sup>38</sup> Bankoff, “Breaking New Ground?”.

“informal” influence through scientific advising. By the 1920s, U.S. foresters, engineers, medical professionals, and other experts, took on advisory roles to foreign governments demonstrating how to build modern states.<sup>39</sup> Hugh Curran, a U.S. forester featured in Chapter 5, became one of the earliest forestry agents to work in the Philippines and afterward to advise East Asian and South American governments on forestry matters, including state-building and the opening of forestry academies. By the mid-twentieth century, U.S. forestry had an international reputation for increasing the profitability of forest resources and expanding state capacities for resource control. Under the pretense of “benevolence” and support for Philippine nationhood, forestry served as a central agent for spreading U.S. influence around the world. A topic I will return to briefly in the dissertation’s conclusion, the experiences of U.S. forestry officials in the Philippines helped to bring about the International Society of Tropical Foresters, which played significant roles in forest histories in Latin America between 1920 and 1960.<sup>40</sup>

### **Approaches: Environments and Scales of Space**

As an environmental history, this work approaches U.S. forestry in the Philippines from two perspectives: 1) it examines the cultural practices that mediate humans’

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<sup>39</sup> For similar arguments based upon the expansion of U.S. financial expertise see Emily S. Rosenberg, *Financial Missionaries to the World: The Politics and Culture of Dollar Diplomacy, 1900-1930* (Durham, NC: Duke University Press, 2003) and for medical expertise see Warwick Anderson, *Colonial Pathologies: American Tropical Medicines, Race, and Hygiene in the Philippines* (Durham, NC: Duke University Press, 2006), 215-233.

<sup>40</sup> Tom Gill, “America and World Forestry,” in Henry Clepper and Arthur B. Meyer, eds., *American Forestry: Six Decades of Growth* (Baltimore, MD: Monumental Printing Co., 1960), 293. See also Richard P. Tucker, *Insatiable Appetite The United States and the Degradation of the Tropical World*, rev. ed. (Lanham, MD: Rowman and Littlefield Publishers, 2007), 200-201 and Michael Williams, *Deforesting the Earth : From Prehistory to Global Crisis*, abr. ed. (Chicago: University of Chicago Press, 2006).

relationships with environments and 2) it appreciates forests as material realities with which humans must contend. First, as Linda Nash has said about environments, they are “inevitably something that we always understand through language and certain cultural practices.”<sup>41</sup> Those involved in U.S. forestry in the Philippines were no exception. This work considers the many historical actors (foresters, scientists, policymakers, capitalists, and laborers) as complex individuals who came into contact with forests through specific cultural practices. Forestry practices, my main focus, were products of forestry officials’ attempts to implement a varied and complex agenda. That is, the starting point for forestry officials was to view the forests as spaces to be commodified and utilized as well as managed. I illuminate how their agenda manifested tensions within forestry practices as well as how tensions arose between forestry policies and other practices such as labor and market relations.

In addition to highlighting practices and their role in mediating human relations with environments, an environmental history must also appreciate and evaluate the material world.<sup>42</sup> I look closely at forests, trees, and plants as significant elements of the world that humans act with and against. I also seek out how those elements of the natural world move, change, and act. Part of environmental history’s contribution to knowledge is that it helps to decenter human agency as the centrally important active force on earth. This is not to assign human-like agency to non-human nature. Rather, I acknowledge and

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<sup>41</sup> Linda L. Nash, *Inescapable Ecologies: A History of Environment, Disease, and Knowledge* (Berkeley: University of California Press, 2006), 10.

<sup>42</sup> Certainly this is understood in the field of environmental history. Nonetheless, this idea is particularly well-stated in Nash, *Inescapable Ecologies*, 10-12. See also Mark Fiege, *The Republic of Nature: An Environmental History of the United States* (Seattle: University of Washington Press, 2010); Ellen Stroud, “Does Nature Always Matter?: Following Dirt through History,” *History and Theory* 42, (December 2003), 75-81.

bring into my analysis how elements of the natural world emerge, function, and organize. This is also not to open an old debate over nature versus culture. I take seriously scholarly challenges to appreciate humans and nature as the same earthly phenomenon made of the sun's energy and the same basic materials.<sup>43</sup> Countering arguments that human intentionality sets us apart from nature, I posit that human motives rarely work out exactly as planned precisely because we are but one set of natural functions working with and against many others.

Given these two environmental perspectives, forests take on particular importance both as social constructs and as material realities; in both cases they are treed spaces. First, humans “make” a forest through perspective, definition, and use of the material. “Forests” is a concept, a way of perceiving the landscape based on its biophysical properties: the appearance of certain species, namely trees, arranged in particular ways. Forests, according to one popular author, are “cubic” spaces. In addition, forests are only forests in relation to land that is not a forest. Whether one approaches a forest from outside or lives mostly in forests, treed spaces are different from spaces without trees. Humans may burn down or clear portions of the forest. They may choose to live inside or outside the forest. They may clear a portion for planting or hunting, but they know that if all of the trees are removed what remains is no longer forest. As material realities, trees both interrupt our vision and distort sounds; it is no wonder that myths and folk tales from around the globe portray forests as dangerous and mysterious spaces. Trees also come crashing down due to old age, pest infestation, and storms. They burn. They house and feed various biological forms from underground to the canopies far above. Their

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<sup>43</sup> Richard White, *The Organic Machine: The Remaking of the Columbia River* (New York: Hill and Wang, 1995) and Cronon, *Nature's Metropolis*, 18.

foliage, seeking sunlight, casts shade that cools the surface below. By making these admittedly abstract observations about trees and forests, I am trying to underscore the fact that none of the people in this history, whether indigenous or foreigner, scrawled out their desires on a blank page. The human struggles within the context of empire did not only involve humans. Rather, material realities governed some of what the humans could and could not accomplish whether in bureaucratic offices, marketplaces, or forests.

In addition to these perspectives on the natural environment, my approach to this topic has grown out of the recent literature on U.S. imperialism and Philippine social history during the nineteenth and twentieth centuries. According to Theresa Ventura's recent dissertation, the literature on the relationships between the United States and the Philippines remained bifurcated into nationalist and insular narratives.<sup>44</sup> U.S. historians writing about American Empire tended to treat changes in the Philippines as the outcomes of American history while marginalizing Philippine societies and politics.<sup>45</sup> Similarly, Philippine historiography treated the American occupation as simply one event on the road to the establishment of a Philippine nation.<sup>46</sup> More recent scholarship has

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<sup>44</sup> Theresa Ventura, "American Empire, Agrarian Reform, and the Problem of Tropical Nature in the Philippines, 1898-1916," (dissertation, Columbia University, 2009), 7-9.

<sup>45</sup> Some representative works are William Appleman Williams, *Tragedy of American Diplomacy*, 2<sup>nd</sup> ed. (New York W.W. Norton, 1959); Ernest R. May, *Imperial Democracy: The Emergence of America as a Great Power* (New York: Imprint, 1961); Walter LaFeber, *The New Empire: An Interpretation of American Expansionism, 1860-1898* (Ithaca, NY: Cornell University Press, 1963); Russell Roth, *Muddy Glory: America's "Indian Wars" in the Philippines, 1899-1935* (West Hanover, MA: Christopher Publishing House, 1981); Stuart Creighton Miller, *Benevolent Assimilation: The American Conquest of the Philippines, 1899-1903* (New Haven, CT: Yale University Press, 1983); Amy Kaplan and Donald Pease, *Cultures of United States Imperialism* (Durham, NC: Duke University Press, 1993); Kristin L. Hoganson, *Fighting for American Manhood: How Gender Politics Provoked the Spanish American War* (New Haven, CT: Yale University Press, 1998).

<sup>46</sup> Tedoro Agoncillo, *The Revolt of the Masses: The Story of Bonifacio and the Katipunan* (Quezon City: Ateneo de Manila University Press, 1956); Agoncillo, *Malolos: The Crisis of the Republic* (Quezon City: Ateneo de Manila University Press, 1960); Peter Stanley, *A Nation in the Making: The Philippines and the United States, 1899-1921* (Cambridge, MA: Harvard University Press, 1974); Alfred McCoy and Ed. C. de Jesus, eds., *Philippine Social History: Global Trade and Local Transformations*

shown the “conversational” nature of empire by examining Philippine and American politics and society through transnational perspectives. Paul Kramer has examined the ways that race in the Philippines was made in the interactions between Philippine society and U.S. imperial practices.<sup>47</sup> Other scholars have also investigated how U.S. imperial policies remade Philippine society even as Filipino/as contributed to and shaped such policies and practices.<sup>48</sup> And, in Alfred W. McCoy and Francisco A. Scarano’s recent edited volume, scholars explore how interactions within empire have generated new U.S. state capacities and shaped American society in a multitude of ways including environmental management, medicine, military, policing, and education among much else. This recent literature has supported my interest in seeking out the tensions between imperial imaginings and what happens on the ground.

Recent scholarship has also begun to explore the Philippine environments and environmental management as part of U.S. imperialism. Much of this literature has also been forced to reckon with the tropics as a particular environment that Americans sought to commodify and control. This body of work breaks into two large themes. The first concerns the imposition of U.S. administrative power and Americans’ beliefs about the deficiencies of Philippine society. Within such a context, these works explore how despite a power imbalance, Philippine and American attitudes and beliefs brought about an unexpected colonial milieu and shaped state formation on both sides of the Pacific.

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(Honolulu: University of Hawai’i Press, 1982); Florio Quibuyen, *A Nation Aborted* (Quezon City: Ateneo de Manila University Press, 1999).

<sup>47</sup> Kramer, *The Blood of Government*.

<sup>48</sup> Vicente Rafael, *White Love and Other Events in Filipino History* (Durham, NC: Duke University Press, 2000); Warwick Anderson, *Colonial Pathologies: American Tropical Medicine, Race, and Hygiene in the Philippines* (Durham, NC: Duke University Press, 2006); Reynaldo Ileto, *Knowing America’s Colony: A Hundred Years from the Philippine War* (Manoa, HI: University of Hawai’i Press, 1999).

Warwick Anderson shows how Americans connected race to tropical diseases and to medical reforms in the colony and in the metropole. Daniel F. Doeppers similarly links Americans' ideas about health and sanitation in colonial Manila to healthful city planning in the United States. Julian Go and Theresa Ventura have separately examined how agrarian and land reforms were designed to "educate" Filipino/as to behave as American-styled landowners and farmers.<sup>49</sup> Each of these policy areas helped to form what Paul Sutter called an "environmental management state." He argued that such a state had clearly emerged by the time of the U.S. intervention in Panama when doctors and scientists attempted to conquer the medical obstacles of canal-building in the tropics. If such a state existed, then certainly part of its origins are to be found in the Philippine Bureau of Forestry.

A second area of environmentally focused literature on U.S. imperialism traces how specific environments, colonial regimes, and indigenous land use patterns have resulted in environmental change. Lesley Potter compared colonial forestry services in Southeast Asia in order to explore how different regimes approached a central problem of tropical colonial forest management: the conversion of forests in agricultural lands. She argues that despite the influence of British and later American forestry styles, colonial forest management developed differently across the region due to social, environmental, and cultural contexts.<sup>50</sup> In addition, commodification has been an important element of

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<sup>49</sup> Julian Go, "The Chains of Empire: State Building and 'Political Education' in Puerto Rico and the Philippines," in Julian Go and Anne L. Foster, eds., *The American Colonial State in the Philippines: Global Perspectives* (Durham, NC: Duke University Press, 2003), 197-201 and Ventura, "American Empire, Agrarian Reform, and the Problem of Tropical Nature in the Philippines, 1898-1916."

<sup>50</sup> Lesley Potter, "Forests versus Agriculture: Colonial Forest Services, Environmental Ideas, and the Regulation of Land-use Change in Southeast Asia," in Lye Tuck-Po, Wil de Jong, and Abe Ken-ichi, eds., *The Political Ecology of Tropical Forests in Southeast Asia: Historical Perspectives* (Victoria, Australia: Trans Pacific Press, 2003), 29-71. See also Joseph Nevins and Nancy lee Peluso, *Taking*

Philippines environmental history because of its long-term colonial status.<sup>51</sup> Greg Bankoff has recently examined how the ecological foundations of Philippine forests contributed to colonial ideas and policies, especially the commercialization of timber.<sup>52</sup> And, Richard P. Tucker's work has sought to explain widespread deforestation in the Philippines during the twentieth century by revealing how U.S. policies and capital investments turned Philippine forests into arenas for exploitation.<sup>53</sup> This dissertation adds to this literature by expanding the view of Americans' complex forestry agenda as well as the ways that Filipino/as approached a changing colonial world.

While examining the tension between capitalist development and environmental reform in U.S. forestry practices, this work adds to studies of empire by attending to multiple spatial scales. First, U.S. foresters' efforts to facilitate capitalist development and institute environmental reform illuminate the interpenetration of local, national, and imperial geographical scales. These terms – local, national, imperial – are, as Richard White has stated, “spatial categories.” Scales of space are important to historians because

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*Southeast Asia to Market: Commodities, Nature, and People in the Neoliberal Age* (Ithaca, NY: Cornell University Press, 2008) and Anna L. Tsing, *Friction: An Ethnography of Global Connection* (Princeton, NJ: Princeton University Press, 2005).

<sup>51</sup> For social change linked to capitalist ventures see Wong Kwok-Chu, *The Chinese in the Philippine Economy, 1898-1941*, (Quezon City: Ateneo de Manila University Press, 1999); John A. Larkin, *Sugar and the Origins of Modern Philippine Society*, (Berkeley: University of California Press, 1993); McCoy and de Jesus, *Philippine Social History*. For Philippine socio-economics before the U.S. intervention see Ed. C. de Jesus, *The Tobacco Monopoly in the Philippines: Bureaucratic Enterprise and Social Change, 1766-1880* (Quezon City: Ateneo University Press, 1998); Edgar Wickberg, *The Chinese in Philippine Life 1850-1898* (New Haven, CT, Yale University Press, 1965).

<sup>52</sup> Greg Bankoff, “Deep Forestry: Shapers of the Philippine Forests,” *Environmental History* 18 (July 2013), 523-556.

<sup>53</sup> Richard P. Tucker, *Insatiable Appetite: The United States and the Ecological Degradation of Tropical World* Con. rev. ed., (Lanham, MD: Rowman and Littlefield, 2007); John Dargavel and Richard Tucker, eds., *Changing Pacific Forests: Historical Perspectives on the Forest Economy of the Pacific Basin* (Durham, NC: Forest History Society), 1992; Richard P. Tucker and J.F. Richards, eds., *Global Deforestation and the Nineteenth Century World Economy* (Durham, NC: Duke University Press, 1983).



by highlighting particular scales, we privilege some social relations over others. For instance, the national scale has retained a privileged status in history. As White cautioned scholars, “History as a discipline is the child of the nation-state,” and much scholarship that claimed to be regional, transnational, and imperial have been “national histories in disguise.”<sup>54</sup> Recent scholarship on U.S. empire has pointed out that academic interest in globalism during the 1990s allowed scholars to suggest that the nation as a scale of analytical importance was in decline.<sup>55</sup> Environmental history too, with its trans-border foundations, effectively demonstrated that political boundaries were insufficient to explain environmental change.<sup>56</sup> New scholarship offered the “global” and “regional” as better scales of analyses.<sup>57</sup> More recently, scholars have turned down the “either or” approach to scalar analysis and suggested not only that the nation is still a vital and important scale, but also that scales are intertwined and need not be disentangled.<sup>58</sup>

A second but related problem has been that even histories acknowledging American imperialism tended to privilege, once again, the nation as the foundational category for understanding empire. As Alfred W. McCoy, Francisco Scarano, and

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<sup>54</sup> White, “The Nationalization of Nature,” 979-980.

<sup>55</sup> Ibid., 977; Frederick Cooper, “Modernizing Colonialism and the Limits of Empire,” in Craig Calhoun, Frederick Cooper, and Kevin W. Moore, eds., *Lessons of Empire: Imperial Histories and American Power* (New York: The New Press, 2006), 63-64; George Steinmetz, “Imperialism or Colonialism? From Windhoek to Washington by Way of Basra,” in Calhoun, Cooper, and Moore, eds., *Lessons of Empire*, 135-156.

<sup>56</sup> Ian Tyrell, “Beyond the View from Euro-America: Environment, Settler Societies, and the Internationalization of American History,” in Thomas Bender, ed., *Rethinking American History in a Global Age* (Berkeley: University of California Press, 2002), 172.

<sup>57</sup> Dan Flores, “Place: An Argument for Bioregional History,” *Environmental History Review* Vol. 18, No. 4 (Winter, 1994), 1-18; Michael Hardt and Antonio Negri, *Empire* (Cambridge, MA: Harvard University Press, 2001).

<sup>58</sup> White, “The Nationalization of Nature;” Becky Mansfield, “Beyond Rescaling: Reintegrating the ‘National’ as a Dimension of Scalar Relations,” *Progress in Human Geography* Vol. 29, No. 4 (2005), 458-473.

Courtney Johnson have written, U.S. historians who sought to describe U.S. empire have exhibited “insular” tendencies.<sup>59</sup> In addition to naturalizing the nation as the basic framework in history, such a focus suggested that U.S. empire could be understood as a product of domestic events and acts carried out upon foreign peoples who experienced but did not contribute to historical change.<sup>60</sup>

Here, a history of forestry practices provides an opportunity to consider scales and space as useful categories of analysis for histories of colonialism and empire. Scientific forestry entailed practices that sought to structure societies and human-environment interactions. The social relations that emerged out of forestry practices helped bring local, national, and imperial spaces into being. Instead of thinking of forestry practices as inherently local phenomena, or as competitions between imperial power, national imperatives, and local conditions, this work offers another look at how social and environmental history can be understood on multiple spatial scales. Adding to Richard White’s call to rethink spatial scales, geographer Becky Mansfield has proposed a useful multi-scalar analytical approach that includes “practices” as a centrally important component:

Rather than implying that one scalar regime must yield to another, we can identify ways that scales are intertwined, without implying that any one particular scale is necessary in all situations. In this way, thinking about *scalar dimensions of practices*, rather than *practices occurring at different*

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<sup>59</sup> Alfred W. McCoy, Francisco Scarano, and Courtney Johnson, “On the Tropic of Cancer: Transitions and Transformations in the U.S. Imperial State,” in Alfred W. McCoy and Francisco A. Scarano, eds., *Colonial Crucible*, 7-10.

<sup>60</sup> For the dialectical approach to empire see Ann Laura Stoler, *Race and the Education of Desire: Foucault’s History of Sexuality and the Colonial Order of Things* (Durham, NC: Duke University Press, 1995); Anne McClintock, *Imperial Leather: Race, Gender, and Sexuality in the Colonial Contest* (New York: Routledge, 1995); Alfred W. McCoy, *Policing America’s Empire: The United States, The Philippines, and the Rise of the Surveillance State* (Madison, WI: University of Wisconsin Press, 2009).

*scales*, is an analytical tool that can yield new understanding (italics in original).<sup>61</sup>

Borrowing from Mansfield, this dissertation does not privilege any one scale, but rather focuses on forestry practices to show how empire, nation(s), and locales came into being as socially produced spaces. By examining forestry practices, we can see that imperial power is neither omnipresent nor consistent. For example, Chapter 2 demonstrates how the U.S. forestry officials came to depend upon the local social relations and ad hoc labor arrangements that they had sought to reform. When the Bureau of Forestry reported its progress up the chain of command, much of that progress was due to Chinese sawyers, small-scale Filipino/a loggers, and antiquated methods – all of which were objects of the American civilizing mission. In addition, the nation as a sovereign entity is both reinforced in imperial forestry, because of forestry's state-building imperatives, and transcended by it because the dialectics of empire render borders porous and flexible. And, although all human action is carried out in specific localities, imperial power can reduce the importance of the local by rendering it unrecognizable at other levels of social relations as vernacular is simplified into the language of the colonial state. In order to explain social and environmental change, we must move away from scalar competitiveness and see spatial scales as the outcome of practices.

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<sup>61</sup> Mansfield, 468.

## Sources

In order to trace how these practices illuminate social and environmental change, I have examined archival documents in the United States and in the Philippines. The archive is, as ever, problematic. It has permitted me to investigate forestry and colonial practices but offers only a limited view. For example, government documents are important sources for facts, figures, maps, and other clues about how U.S. colonial officials understood and represented Philippine forests. But these documents privilege the U.S. officials' perspectives and leave out the names, ideas, desires, and representations of those not in government employ. Just as important to my reliance on these documents is that fact that the Philippine forestry archives have been destroyed – twice – rendering surviving sources precious and scarce. In 1897, fire destroyed the Spanish forestry offices and adjacent botanical gardens in Manila eliminating many botanical and other scientific documents written by Spanish officials.<sup>62</sup> In 1945, during the battle for the Philippines between Japanese and combined U.S.-Philippine forces, the U.S. colonial forestry headquarters and their records were again reduced to ashes. What survived were the forestry records that had been collected previously by U.S. authorities and transmitted back to the metropole. Even in 1950, when the Filipino leaders of the Bureau of Forestry sought photographs and documents for an anniversary celebration, a modest collection was possible “only because our forest officers all over the Islands sent in what they have

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<sup>62</sup> Regino Garcia, “Brief Review of the Forestry Service during the Spanish Government, from 1863 to 1898,” Pinchot Papers, LOC, Box 586, 5. For one good example of what a scholar has been able to do with such a limited archive see Greg Bankoff, “A Month in the Life of Jose Salud, Forester in the Spanish Philippines, July 1882,” *Global Environment* Vol. 3, (2009), 9-47.

saved from the war.”<sup>63</sup> Nevertheless, I have examined the available evidence critically with an eye for the way imperial power continues to exert influence through the archive.

## Chapter Outline

The dissertation’s five chapters are organized around the forestry practices of the U.S. colonial state in the Philippines. These practices were developed in broad colonial contexts that included British colonial forestry, European forestry traditions, Spanish forestry in the Philippines, and forestry academies in the United States. Each chapter investigates certain themes and forestry practices that took place between 1900 and 1937, when the last American officials withdrew from the Philippine Bureau of Forestry.

The time period between 1900 and 1916 receives much more attention than later years. As Glenn May and Theresa Ventura have shown in their studies that highlight this same period, cases can be made for a focus on early U.S. colonialism – it was, as May wrote, “a distinct period of U.S. colonial policy.”<sup>64</sup> It also marked the end of the Progressive period in the United States. I attend to this period because it was a period of formations for forestry ideas, policies, and practices. It shaped much of what came later, but not all. The period came to an end because of Filipino/a activism and political changes in the United States. The process of “Filipinization,” or the empowerment of Filipino/as within colonial government, gave the Filipino/a-dominated Assembly more power and reduced American presence in the government bureaus. But beyond noting

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<sup>63</sup> *Forestry Golden Book* (Manila, 1950), 4.

<sup>64</sup> May, *Social Engineering in the Philippines* and Ventura, “American Empire, Agrarian Reform, and the Problem of Tropical Nature in the Philippines, 1898-1916.”

that this was a distinct period in U.S. colonial history, my attention to the early years also illuminates my commitment to seeking out historical contingency. Instead of highlighting results or effects, I examine the processes of instituting scientific forestry in a colonial setting. Whereas results can reinforce the idea that political and social instability as well as deforestation were inevitable outcomes of colonialism, this work demonstrates that forestry history was replete with contingent moments.

This work is bookended by chapters on ideas and practices that relate forests to the lives of nations – in Chapter 1, the United States, and in Chapter 5, the Philippines. This scheme is drawn from the people I study. Many of them conceived of government forestry as a representative of modern nationhood. In a sense, therefore, I reproduce their categorization of forestry. I do so because one of forestry's primary effects has been to the expansion of the capacities of nation-states. More than just existing as a benign idea, then, the nation is the object of the actors in this history. As such, I interrogate what the nation means to the people who invoked its importance and its relation to forestry. Moreover, I problematize the nation as one set of concerns and ideas among many others that forestry officials discussed. Although I look at the nation as a category of analysis, I also critique what the nation meant to the people who used its powerful image.

Chapter 1 brings together the origins of the forestry movement in the United States with U.S. expansion into the American West and the Philippines. It demonstrates how forestry advocates linked local, national, and imperial spaces together within their talk of forests. In this chapter, I focus on the lives of two men, George Perkins Marsh and George Patrick Ahern, as central agents of conservation and colonialism, respectively. Marsh's *Man and Nature* (1864) introduced the most influential set of ideas about

conservation to the United States. The chapter identifies one of *Man and Nature*'s most significant contributions as the link it made between localized environments, peoples, and economies in a web of trans-local connections that most people understood as "the nation." These linkages showed that seemingly distinct local environmental problems produced effects that resonated far beyond localities. With increased industrial capacity to rearrange the natural world, some Americans called for new governmental capacities to contend with modern economic realities.

George Patrick Ahern was one of those who believed in and promoted the Progressive reform movements. An Army officer stationed in the West, Ahern witnessed the poor treatment of American Indians as well as the destruction of some western forests, and he promoted reforms related to both. Stationed in Montana, Ahern tried to convince local timber and lumber operators of the benefits of scientific forestry and he earned the ire of some capitalists as well as the appreciation of Gifford Pinchot. In 1898, Pinchot selected Ahern to be his proxy in the Philippines. Ahern brought together Progressive reforms within U.S. imperialism and he attempted to execute Gifford Pinchot's wishes for an idealized forestry bureau in the Philippines. Although the reforms that Marsh called for could not be implemented in the United States because of political opposition, Pinchot and Ahern believed that U.S. colonialism in the Philippines offered an opportunity to demonstrate the benefits of scientific forestry to the American public.

Chapter 2 investigates forestry officials' attempts to modernize the Philippine timber and lumber industries through the introduction of wage labor and machines. In order to facilitate greater production of timber and lumber, the Philippine Bureau of Forestry encouraged large-scale firms to locate in the islands despite the reservations that

many companies maintained about investing in the Philippines. In addition to bolstering large capital investments, the U.S. forestry officials also took part in social reforms by attempting to reshape how Filipino/as worked in the woods. As production increased, U.S. authorities trumpeted their success in remaking the Philippine timber and lumber industries into paragons of efficiency and modern methods. Some historians have taken the success of this top-down restructuring for granted in order to show how colonialism established the conditions for deforestation. However, this chapter demonstrates that despite U.S. attempts to introduce wage labor, new machines, and new technologies, the most significant driving force behind increased production of timber and lumber during the first two decades of U.S. colonization was Filipino/as themselves seeking out opportunities for investments and work. Indeed, local methods, older technologies and social relations helped to put Philippine forest products on the map. This chapter offers a new look at the introduction of modern methods by showing how increased production was often out of the U.S. foresters' hands. Rather than privileging Americans as the primary actors in the exploitation of Philippine resources, this chapter shows that Filipino/a workers had their own ideas about making a living by engaging new market opportunities.

Chapter 3 analyzes how U.S. forestry officials assessed the value of Philippine forests. It examines how U.S.-based forestry advocates used timber-testing and other methods to demonstrate to timber and lumber capitalists that scientific forestry could be used to increase efficiency and profitability while decreasing waste and environmental degradation. In order to show what they could do for the forest product industries, U.S. forestry officials in the Philippines sought to identify valuable Philippine woods.



Americans assumed that the Philippine hardwoods were the most valuable assets on the market. However, in their attempt to thin the woods of undesirable species, they experienced a revelation that Philippine softwoods, especially those of the *Dipterocarpaceae* family, brought the best return. This chapter demonstrates the contingent nature of “value” by illuminates how tax structures, market demands, technologies, and the forest itself shaped definitions of “value” that, in turn, shaped and limited exploitation in certain ways.

Chapter 4 examines the creation of “state” space as well as the identification of publics and forest threats. In their efforts to delimit forest use, the Philippine Bureau of Forestry created a licensing program to encourage certain types of land use and to discourage others types. Marking a large departure from events at home, where U.S. foresters contended with vast amounts of private forests, U.S. officials in the Philippines controlled most forests in the Philippines. This chapter examines the technologies of control and surveillance that forestry authorities used both to make the forests productive and to secure it against unsanctioned uses. Those efforts helped to define who in the Philippines counted as “the public” and who, by virtue of how they used the forests, remained apart from the public. The chapter demonstrates how U.S. forestry authorities helped to redefine certain peoples in the Philippines as enemies to progress and nationhood. Shifting agriculturalists became enemies number one for forestry authorities because they moved into recently logged forests and burned the remaining trees to clear the land for agriculture. However, shifting agriculture followed the patterns of capitalist development. Although U.S. officials believed shifting agriculture to be irrational and damaging to the forests’ futures, this land use was intimately tied to commercial uses. In

addition, the Bureau of Forestry's fight against shifting agriculturalists permitted the development of a narrative that championed capitalist development and vilified other uses of the forests. In this chapter, I emphasize the power of the state to define social relations that structured Philippines forest policies throughout the twentieth century.

Chapter 5 brings the actions of the U.S. forestry officials back to forestry's national roots by examining how the optimistic and masculine-gendered roots of forestry education in the United States provided a foundation for Filipino forestry. I show that Gifford Pinchot and Henry Graves instituted specific attitudes, ideas about middle-class status and masculinity, as well as esprit de corps within the Yale School of Forestry. I explore how forestry academies prepared young men for careers in forestry by emphasizing a "self-sacrificing" spirit similar to military service. U.S. officials carried these attitudes to the Philippines where Filipino forestry students made them central to the creation of a Filipino force of forest rangers. And, these rangers in turn, were envisioned as model Filipino citizens who would help to inculcate proper values and attitudes in the larger population. These attitudinal foundations showed U.S. forestry to be not only a system of management and governance, but also sites of social and cultural development. After the last Americans vacated the Philippine Bureau of Forestry in 1937, leaving the Bureau entirely in the hands of Filipino graduates of the Philippine College of Forestry, Filipino forestry officials continued to cultivate that esprit de corps, which, in turn, helped reassure them that the American-inspired policies and practices served the best interests of the emerging nation. As in Chapter 1, forestry became an element of state-building and national pride for some Filipino/as even as forests appeared to be threatened by overuse.

In the conclusion, I argue that U.S. forestry in the Philippines initiated a model of U.S. influence overseas that served American interests throughout the twentieth century. U.S. foresters took the model established in the Philippines to East Asia and Latin America beginning in 1920. But instead of acting as direct agents of U.S. colonialism, they played advisory roles for corporations and national governments. Even though their status changed, however, they continued to rely upon the dual mandate that was developed in the Philippines. Capitalist development and environmental reform continued to promise that scientific forestry would stabilize economies and environments as well as promote investments and continued scientific research into tropical forests. Although state forestry appealed to many states during the twentieth century and became a symbol of legitimate government, forest loss in much of the world has demonstrated that scientific forestry's attention to capitalist modes of production, especially at the national level, has contributed to forest loss.

## Chapter 1

### Forestry, Capitalism, and the American Civilizing Mission

#### Introduction

In 1898, two events – Gifford Pinchot’s appointment to lead of the U.S. Division of Forestry and the U.S. acquisition of the Philippines – appeared unconnected, but their coincidence initiated social and environmental change in both the United States and the Philippines.<sup>1</sup> When Gifford Pinchot was tasked to lead the small U.S. Division of Forestry, he introduced a new agenda to American environmental management. He argued that investments in federal scientific forestry would repay both capitalists and the American people with interest. Forestry, he claimed, would solve national economic problems by encouraging more efficient use of forest resources and he looked especially to the American West as an arena where forestry professionals could promote and demonstrate the benefits of scientific forestry. But, defensive westerners cried out that Pinchot and other forestry reformers endangered private property and individual enterprise by attempting to manage western lands. When President McKinley announced the U.S. intervention in the Philippines, Pinchot spied an opportunity. U.S. forestry reformers imagined the Philippines as an extension of the American West where they could show how scientific forestry would benefit capitalists, social reformers, and American consumers alike. Although forestry at home remained divisive, U.S. forestry in the Philippines moved forward as an attempt to show that forestry reform and capitalist development could coexist.

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<sup>1</sup> Lawrence Rakestraw, “George Patrick Ahern and the Philippine Bureau of Forestry, 1900-1914,” *Pacific Northwest Quarterly* (July, 1967), 143.

Since 1898, the Philippines has played a number of important roles in U.S. history. Most prominently, the Philippines opened a debate over whether or not the United States should become an overseas colonial power. The U.S. civilizing mission had long facilitated U.S. expansion in North America, but the possession of an “Oriental” or “Asiatic” colony raised new questions about Americans’ global aspirations.<sup>2</sup> Similarly, cultural historians have found that the unique relationship that began in 1898 shaped culture and societies on both sides of the Pacific.<sup>3</sup> Recently scholars have also illuminated the role that the Philippines played in the creation of the U.S. state and environmental policy.<sup>4</sup> Beyond merely generating a new capacity to administer a colony, the development of a colonial apparatus shaped the U.S. state in a number of profound ways.<sup>5</sup> The role that the Philippines played in the history of U.S. forestry has largely been overlooked although the Philippine Islands came under U.S. control at a crucial time in

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<sup>2</sup> Creighton Miller, *Benevolent Assimilation: The American Conquest of the Philippines, 1899-1903* (New Haven, CT: Yale University Press, 1982); Julian Go and Anne L. Foster, eds., *The American Colonial State in the Philippines: Global Perspectives* (Durham, NC: Duke University Press, 2003); Paul A. Kramer, *The Blood of Government: Race, Empire, the United States and the Philippines* (Chapel Hill, NC: University of North Carolina Press, 2006); Glenn Anthony May, *Social Engineering in the Philippines: The Aims, Execution, and Impact of American Colonial Policy, 1900-1913* (Westport, CT: Greenwood Press, 1980).

<sup>3</sup> Amy Kaplan and Donald L. Pease, eds., *Cultures of United States Imperialism* (Durham, NC: Duke University Press, 1993); Vicente L. Rafael, *White Love and Other Events in Filipino History* (Durham, NC: Duke University Press, 2000); Dorothy B. Fujita-Rony, *American Workers, Colonial Power: Philippine Seattle and the Transpacific West, 1919-1941* (Berkeley: University of California Press, 2003); Warwick Anderson, *Colonial Pathologies: American Tropical Medicine, Race, and Hygiene in the Philippines* (Durham, NC: Duke University Press, 2006).

<sup>4</sup> By the “state,” I am borrowing from Charles Tilly who defined the state as, “coercion wielding institutions that are distinct from households and kinship groups and exercise clear priority in some respects over all other organizations within substantial territories.” But, I am also focused specifically on the state within American society. This means that the “coercion wielding institutions” tend to be located within state and federal governments. See George Steinmetz, ed., *State/Culture: State Formation after the Cultural Turn* (Ithaca, NY: Cornell University Press, 1999), 8.

<sup>5</sup> Alfred W. McCoy and Francisco A. Scarano, eds., *Colonial Crucible: Empire and the Making of the Modern American State* (Madison, WI: University of Wisconsin Press, 2009).

the history of U.S. forestry.<sup>6</sup> This chapter argues that the roots of U.S. and Philippine forestry are found in American social and political debates at the end of the nineteenth century. As some observers began to connect local environmental degradation to the increasing power and responsibility of the federal state, environmental and economic concerns helped strengthen their arguments for greater state power. By exploring the contingent events that produced a new forestry agenda, the chapter shows that U.S. forestry encouraged capital investments, required social and environmental reforms in line with Progressivism, and linked local concerns to national well-being.

During the late nineteenth century, scientific forestry was little known in the United States. Scientific forestry came about in Europe as a response to the acute environmental and economic effects of deforestation. As James Scott and S. Ravi Rajan have noted, scientific forestry rose out of the turn to cameralism, or the science of state finances.<sup>7</sup> In France, Germany, and British colonial India, states initiated new administrative capacities that included forestry offices, forest reserves, and the training of experts.<sup>8</sup> Beginning with George Perkins Marsh's observations on European forestry in

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<sup>6</sup> Greg Bankoff, "Breaking New Ground? Gifford Pinchot and the Birth of 'Empire Forestry' in the Philippines, 1900-1905," *Environment and History* Vol. 15, No. 3 (August, 2009); Lesley Potter, "Forests versus Agriculture: Colonial Forest Services, Environmental Ideas, and Regulation of Land-use Change in Southeast Asia," in Lye Tuck-Po, Wil de Jong, and Abe Ken-ichi, eds., *The Political Ecology of Tropical Forests in Southeast Asia: Historical Perspectives* (Victoria, Australia: Trans Pacific Press, 2003), 29-71; Dennis M. Roth, "Philippine Forests and Forestry: 1565-1920," in Richard P. Tucker and John F. Richards, eds., *Global Deforestation and the Nineteenth Century World Economy* (Durham, NC: Duke University Press, 1983); Lawrence Rakestraw, "George Patrick Ahern," Richard P. Tucker, *Insatiable Appetite: The United States and the Environmental Degradation of the Tropical World* (Lanham, MD: Rowman and Littlefield Publishers, 2007).

<sup>7</sup> James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition have Failed* (New Haven, CT: Yale University Press, 1998) and S. Ravi Rajan, *Modernizing Nature: Forestry and Imperial Eco-Development, 1800-1950* (Oxford: Clarendon Press, 2006).

<sup>8</sup> Ramachandra Guha, *The Unquiet Woods: Ecological Change and Peasant Resistance in the Himalaya* (Oxford: Oxford University Press, 1991); K. Sivaramakrishnan, *Modern Forests: Statemaking and Environmental Change in Eastern India* (Stanford, CA: Stanford University Press, 1999); Gregory A.

*Man and Nature* (1864), a few American forestry advocates began to call for Americans to reform their ideas and uses of forest products.<sup>9</sup> But, even among like-minded forestry advocates, no clear direction of reform emerged. Rather, the debate that ensued illuminated the tension in American life between the power of the state to manage lands and the sanctity of private property. Scientific forestry as a reform notion had no dominant definition, agenda, or direction. Rather, it acted as a forum for debate over the relationships between state institutions, experts, private land owners, and consumers.

After the U.S. Civil War, tensions developed in the United States over the role that the federal government should play in American life.<sup>10</sup> Forestry advocates noted the increasing pressure on American forests and exhorted Americans to reform their consumption of forest products, especially construction timber and fuel wood. By the 1880s, some forestry advocates argued that the U.S. government should create forest reserves and manage their resources for the nation. But, most Americans believed that the state's role was to grant access to the public domain – not to hold and manage lands. Even outspoken forestry advocates doubted that forest reserves had a place in the United States. During the 1890s, Bernhard Fernow, at the head of the U.S. Division of Forestry, believed that his strongest appeal to western landholders was to help farmers and

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Barton, *Empire Forestry and the Origins of Environmentalism* (Cambridge: Cambridge University Press, 1998).

<sup>9</sup> I am using America(n) and United States(U.S.) interchangeably to avoid repetition, not because I am unaware of the problem, as Paul Kramer has said, of 'using a hemispheric designation for a national one.' See Paul Kramer, "Power and Connection: Imperial Histories of the United States in the World," *AHR* (December, 2011), 1348n.1.

<sup>10</sup> Robert H. Wiebe, *The Search for Order, 1877-1920* (New York: Hill and Wang, 1967); Stephen Skowronek, *Building a New American State: The Expansion of National Capacities, 1877-1920* (Cambridge: Cambridge University Press, 1982), Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920* (Cambridge, MA: Harvard University Press, 1959).

industrialists develop more efficient methods of forest use. However, President Cleveland's order in February 1897 to withdraw 21 million acres of forest lands from the public domain sparked a revolt among westerners. In Congress and in the press, westerners cried out that the federal government had overstepped its duties.<sup>11</sup>

When Pinchot became Chief Forester in 1898, he committed to developing a specifically American form of state forestry that went beyond its current advisory capacity.<sup>12</sup> Pinchot hoped to expand the size of his force and to bring scientific forestry to millions of acres of both public and private American forests. For Pinchot, the essence of scientific forestry was the training of experts who would manage the production of regular, predictable timber harvests – a sustained yield. Forestry experts would make forestry pay; capitalists would reap greater profits from increased efficiency, consumers would enjoy more regular and stable prices on forest products, and Americans generally would benefit from a more stable and order natural environment. As Brian Balogh has argued, Pinchot turned to this “social language” of “profitability” to convince western land owners and incredulous Congressmen that federal forestry would pay. Balogh asserts that scholars have underappreciated how Pinchot relied on the “rhetoric of the market” to put his plan for federal forestry into action.<sup>13</sup> Building on Balogh's point, I

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<sup>11</sup> William G. Robbins, *American Forestry: A History of National, State, & Private Cooperation* (Lincoln, NE: University of Nebraska Press, 1985); Harold K. Steen, *The U.S. Forest Service* (Durham, NC: The Forest History Society, 2004[1976]); Patricia Limerick, “Argument for a Closing Frontier,” in Harold K. Steen, ed., *Origins of the National Forests*, (Durham, NC: The Forest History Society, 1992), 15; Gifford Pinchot, *Breaking New Ground* (Washington DC: Island Press, 1998[1947]); Char Miller, *Gifford Pinchot and the Making of Modern Environmentalism* (Washington DC: Island Press, 2001); Miller, ed., *American Forests: Nature, Culture, and Politics* (Lawrence, KS: University Press of Kansas, 1997).

<sup>12</sup> Gifford Pinchot, Diaries, April 22, May 10, 1898, Pinchot Papers, LOC.

<sup>13</sup> Brian Balogh., “Scientific Forestry and the Roots of the Modern American State: Gifford Pinchot's Path to Progressive Reform,” *Environmental History*, Vol. 7, No. 2 (Apr., 2002), 216.



argue that the success of U.S. forestry during the early twentieth century was not only due to Pinchot's savvy use of "profitability," but also to the U.S. intervention in the Philippines. Scientific forestry as part of the American civilizing mission bolstered Pinchot's efforts at home. And, as forestry reform was laden with the tension between private enterprise and the collective good, the origins of Philippine forestry also displayed that tension.

This chapter discusses the beginning of U.S. forestry in the Philippines by examining the ideas and practices that shaped American forestry until 1900. Whereas most histories of U.S. forestry ignore the creation of a U.S. colonial forestry bureau in the Pacific, this chapter argues that the debates and arguments surrounding U.S. forestry reform established the conditions for capitalist development and environmental reform in the Philippines. Though U.S. forestry officials who worked in the Philippines came out of an American context in which forests retreated and wood supplies declined, they worried little about the over-exploitation of Philippine forests. They focused instead on bringing Philippine forests into commercial production under the guidance of expert foresters. Moreover, colonial forestry in the Philippines helped legitimate federal forestry in the United States. The colony offered both a laboratory for experiments with forestry reform methods as well as a policy stage on which federal forestry officials could demonstrate their commitment to capitalist development. First, the chapter explores the influence of *Man and Nature* on those who adopted its ideas and shaped them to fit the American political landscape. Forestry advocates pursued local and national legislation to further their vision of American forest use. But, they also articulated forestry advocacy through traditional American environmental attitudes – agrarianism and republicanism. Such an

articulation fostered collaboration with capitalists, but produced little environmental reform. The second part of the chapter follows forestry advocacy through the 1880s and 1890s when lumber production, western industrial capital, and social reform movements all picked up steam. It then places the career of George Patrick Ahern within this growing movement. As an Army officer and a self-appointed “forestry missionary” in the West, Ahern sought to convert entrenched westerners to a new way of thinking about forest use. He became an important western ally for eastern forestry reformers, especially Pinchot, who, in 1898, helped Ahern ascend to the head of the new Philippine Bureau of Forestry. Ahern’s new mission was to demonstrate the federal state’s dedication to both forestry reform and capitalist development.

### **Forestry and Traditional American Land Use**

The set of ideas responsible for fostering scientific forestry in the United States began with George Perkins Marsh’s observations on the need for environmental reform. In 1864, Marsh published *Man and Nature or, Physical Geography as Modified by Human Action*, a polemic against deforestation. Though it arrived in the midst of the American Civil War, *Man and Nature* became, according to Marsh’s biographer, an “international classic within a decade.”<sup>14</sup> It influenced American agricultural experts, natural scientists, and a fledgling group of forestry advocates. William Cronon has declared *Man and Nature* to be one of three American-authored books to have “the greatest impact on environmental politics and the struggle to build more responsible

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<sup>14</sup> David Lowenthal, *George Perkins Marsh: Prophet of Conservation* (Seattle: University of Washington Press, 2000), 302.

human relations with the natural world.” It did so because of the way that it “reshaped American attitudes toward the environment,” and “caution[ed] against the risks of careless growth.”<sup>15</sup> It was nothing less than an indictment of reigning American environmental culture, and it was, according to Wallace Stegner, “The rudest kick in the face that American initiative, optimism, and carelessness had yet received.”<sup>16</sup>

Marsh was raised near the Green Mountains in Vermont. He became a politician, English professor, and philologist who later claimed that his upbringing near the white pine forests led him “to know more of trees than anything else.”<sup>17</sup> Marsh’s call for reform began with his own observations on deforestation in the Green Mountains. Differing from his contemporaries who saw deforestation as a marker of progress, Marsh stated in 1847 that deforested hillsides were signs of “improvident waste.”<sup>18</sup> In his “Address to the Agricultural Society of Rutland County,” he warned the attendees that too much of Vermont had already been cleared of trees and that additional clearings would open the country to violent floods, freezing winds, baking sun, and the degradation of agricultural soils.<sup>19</sup> The Rutland County address anticipated *Man and Nature* by claiming that deforestation threatened the local farm economy. It called for Americans to rethink what economic development meant on a local scale.

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<sup>15</sup> Cronon quoted in Lowenthal, ix-x.

<sup>16</sup> Stegner quoted in Lowenthal, 303.

<sup>17</sup> Marsh quoted in Lowenthal, 285.

<sup>18</sup> Lowenthal, 274-275; George Perkins Marsh, *Address delivered before the Agricultural Society of Rutland County, Sept. 30, 1847* (Rutland, VT: Printed at the Herald Office, 1848), 17-19. For deforestation as a marker of progress see Nash, Chapter 2, “A Wilderness Condition,” *Wilderness and the American Mind*, 23-43 and Michael Williams, *Americans and Their Forests: A Historical Geography* (Cambridge: Cambridge University Press, 1989), 9-14.

<sup>19</sup> George Perkins Marsh and Stephen C. Trombulak, ed., *So Great a Vision: The Conservation Writings of George Perkins Marsh* (Hanover, NH: Middlebury College Press, 2001), 19.

In 1861, Marsh received a diplomatic appointment to Turin and began to investigate the history and geography of Europe and the Mediterranean region. In Italy, he became fascinated with past and present environmental change and began writing *Man and Nature*. He read most major European languages and studied European environmental thought, giving particular attention to Bernard Palissy, the sixteenth century French potter and hydraulics engineer, and Jules Clavé, a French forestry expert and contemporary of Marsh. He saw lessons for Americans in European responses to environmental change. Americans were ignorant, he claimed, of the dangers of over-consumption and waste. Such consumption appeared to make Americans richer, but he warned that it only presaged a national timber famine.

*Man and Nature* relied on European examples to argue that Americans could learn from Europe's mistakes to prevent environmental and economic disasters.<sup>20</sup> Marsh's studies of the Mediterranean region led him to conclude that deforestation had turned lush forests and pastoral lands into deserts. He espoused the reigning ideas on climate – that forests governed rainfall and that their removal brought aridity. He warned, “the too general felling of the woods has been recognized as the most destructive among the many causes of the physical deterioration of the earth.”<sup>21</sup> Forests were landscapes of paramount importance because they governed stream flow, transpiration, amount and severity of wind, and the stability of hillsides. Deforestation rendered the landscape open to torrents and erosion. And, with erosion, the “agricultural capital,” as one of Marsh's contemporaries labeled soil, was lost, and with it the foundations of society. He argued

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<sup>20</sup> Lowenthal, 297.

<sup>21</sup> Marsh, *Man and Nature*, 189.

that “man’s ignorant disregard of the laws of nature” had caused overuse of the forests and initiated the process of desertification that could bring the United States the same fate as the arid parts of the Mediterranean world.<sup>22</sup>

Marsh’s predictions about deforestation were drawn from many proto-ecological ideas about interconnections within the natural world.<sup>23</sup> For centuries western natural philosophers had theorized that the non-human world contained innumerable interdependencies between organisms, environments, and climate – the essential foundation of modern ecology. Moreover, philosophers of all types had theorized on human relationships with the natural world. Marsh’s understanding of the long history of proto-ecological theory, his experience in the Green Mountains, and his extensive research on past and present European and Mediterranean “civilizations” formed two foundations for his ideas on ecology. First, Marsh drew on Clavé, who had written *Etudes d’Economie Forestiere* bemoaning that political shifts in France had brought about a decline of attention to state forestry, while the Germans appeared to embrace a growing state role.<sup>24</sup> Clavé argued that forests were not, “as is often supposed, a simple collection of trees,” but rather hosted a multitude of connections between and among the “organic and inorganic” parts of the natural world.<sup>25</sup> Soils, woods, waters, microbes, air, and other natural elements jockeyed for position in a process that brought nature into a state of “harmony.” Only spontaneous “geologic convulsions”(earthquakes, floods, etc.)

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<sup>22</sup> Ibid., 10-11.

<sup>23</sup> For ecology see Donald Worster, *Nature’s Economy: The Roots of Ecology* (San Francisco: Sierra Club Books, 1977), 268; Rajan, *Modernizing Nature*, 22-35.

<sup>24</sup> Jules Clavé, *Etudes d’Economie Forestiere* (1862); John C. Brown, *Works on Forestry: Modern Forest Economy* (1884), 168-169.

<sup>25</sup> Jules Clavé quoted in Marsh, *Man and Nature*, 263.

interrupted natural harmony, after which nature inevitably returned to a harmonious path.<sup>26</sup> The questions of man's role in this natural process of repositioning led to Marsh's second conclusion: natural resources were "given to him for usufruct alone, not for consumption, still less for profligate waste."<sup>27</sup> Man maintained a divine right to alter and exploit nature. But, modern man's power over nature had grown far beyond his understanding of natural functions, and humans suffered for their lack of knowledge and unregulated exercise of power. At the foundation of Marsh's ideas were that forests were to be used, but that Americans' modes of use required reform.

The problem was not simply that man interrupted natural functions – that had been happening for centuries – but rather western civilization had produced industrial techniques that damaged nature beyond its ability for self-recovery.<sup>28</sup> Marsh observed, "the destructive agency of man becomes more and more energetic and unsparing as he advances in civilization," and he recognized that modern humans caused unprecedented environmental damage.<sup>29</sup> Modernity, in other words, was not synonymous with progress; this was his lesson for Americans. Through industrial resource extraction and unregulated capitalist fervor, humans interrupted the foundations of ecosystems that they needed to sustain themselves.<sup>30</sup> Americans had to learn to manage the environment together with

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<sup>26</sup> Lowenthal in Marsh, xxiv; Marsh, *Man and Nature*, 29-30.

<sup>27</sup> Marsh, *Man and Nature*, 36. On Marsh's view of human relationships to nature see Rajan, *Modernizing Nature*, 33; Marsh and Trombulak, 73; Worster, *Nature's Economy*, 26-29.

<sup>28</sup> Pisani in Miller, 23.

<sup>29</sup> Marsh, *Man and Nature*, 39-40. However, on page 47 Marsh provides a more detailed analysis of the relationship between degrees of civilization and their corresponding impacts upon nature.

<sup>30</sup> For Marsh's critique of U.S. capitalists see *Man and Nature*, 51-52 n.53; Lowenthal, 191-196.

industrial production in order to become, “a well-order and stable commonwealth, and, not less, a people of progress.”<sup>31</sup>

But, if *Man and Nature* was a fire bell tolling a warning of environmental change, it also signaled danger for the economies so intimately tied to forests. Marsh reminded his audience that forests acted upon “every branch of rural economy and productive industry, and, therefore, on all the material interests of man.”<sup>32</sup> A web of ecological connections was tied into a web of economic connections. Marsh drew on French examples of economic crises and a legacy of calls for forest protection. For example, the sixteenth century French potter and hydraulic engineer Bernard Palissy reviled the deforestation that he witnessed in France. He worried over its impact upon French society exclaiming, “I cannot enough detest this thing, and I call it not an error, but a curse and a calamity to all France; for when forests shall be cut, all arts shall cease.”<sup>33</sup> Marsh hoped to highlight not only natural science, but also Americans’ absolute economic dependence on forests.

Marsh’s prophecies of destruction were not merely located in abstract Nature; he stressed the ways that connections between environments and economies served as the foundation for nations. Marsh argued throughout *Man and Nature* that local forest conditions became national concerns, but nowhere more clearly than when he related the

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<sup>31</sup> Marsh, *Man and Nature*, 280.

<sup>32</sup> Ibid., 122; Trombulak, *So Great a Vision*, 1; Lowenthal, 95.

<sup>33</sup> Palissy translated by Marsh and quoted in *Man and Nature*, 254n213. See also Paul Charpentier tr. Joseph Kennel, *Timber; A Comprehensive Study of Wood in All Its Aspects, Commercial and Botanical, Showing the Different Applications and Uses of Timber in Various Trades, Etc.* (London: Scott, Greenwood & Co, 1902).

“Destructive Actions of Torrents” on Upper Provence.<sup>34</sup> Working in the shadow of the Alps, Marsh was particularly interested in how the denudation of alpine hillsides threatened modern France and Switzerland. Because of deforestation in the Alps, according to numerous French observers, deforestation in the Alps had caused soil to erode, floods to destroy agricultural lands, and people to abandon the province. In 1853, a government observer wrote “All our Alps, or in large proportion, are bared of wood. Their soil, scorched by the sun of Provence, cut up by the hooves of the sheep...is periodically washed and carried off by melting snows and summer storms.”<sup>35</sup> French officials and Marsh agreed that deforestation in the Alps would lead to a “continued and progressive reduction in the number of acres devoted to agriculture” and “in a half century, France will count more ruins, and a department the less.”<sup>36</sup> They believed that the deleterious effects of deforestation would cause the depopulation of Provence. Provence illustrated Marsh’s point – deforestation at seemingly distinct, or even isolated, localities devalued whole regions of their environmental and economic health. In turn, deforested regions negatively affected neighboring locations in a variety of ways. Productive zones became crowded as emigrants moved “from soils which human folly had rendered inhabitable,” to still viable farm lands.<sup>37</sup> As one province’s economic and administrative difficulties bled into neighboring provinces, the problem would become a *national* calamity.

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<sup>34</sup> Marsh, *Man and Nature*, 200-218.

<sup>35</sup> M. de Bonville in Marsh, 213.

<sup>36</sup> Ibid., 214. “Department” here indicates a province.

<sup>37</sup> Ibid.



However, Marsh believed that modern civilization could cut both ways. Through social and environmental reform, humans could repair ecological damage and engineer more stable and productive environments. Specifically, humans needed to understand forests, their effects on other environments and their productive capabilities to ensure future ecological and economic stability. In addition, Marsh added to a central U.S. political argument over the role of the federal state by advocating for federal ownership of forest reserves. These foundational ideas shaped how successive waves of American bureaucrats and conservationists reproduced forestry advocacy in the United States.<sup>38</sup> Frederick Starr, Increase Lapham, and Franklin Hough, among others, accepted and appropriated Marsh's evidence and conclusions about the dangers of deforestation. Starr's *Agricultural Report* (1865), which was read widely by U.S. policymakers, contained long passages from *Man and Nature*.<sup>39</sup> I. A. Lapham's *Report on the Disastrous Effects of the Destruction of Forest Trees Now Going on So Rapidly in the State of Wisconsin* (1867) quickly exceeded its geographical focus and addressed the "fundamental elements of a nation's growth and prosperity" using Marsh's words, evidence, and style.<sup>40</sup> And, Hough's "On the Duty of Governments in the Preservation of Forests" (1873), which he presented to the American Association for the Advancement of Science, quoted passages from *Man and Nature*. "On the Duty of Governments" was so influential among policymakers that Hough was appointed as the first head of the new

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<sup>38</sup> William Robbins, *American Forestry*, 1; Steen in Miller, 51; Lowenthal in Marsh, *Man and Nature*, xxi-xxii; Gregory Barton, *Empire Forestry and the Origins of Environmentalism* (Cambridge: Cambridge University Press, 2002), 27; Williams, 370-371.

<sup>39</sup> Robbins, *American Forestry*, 1; Lowenthal, 302-305.

<sup>40</sup> Lapham, I.A., *Report on the Disastrous Effects of the Destruction of Forest Trees Now Going on So Rapidly in the State of Wisconsin* (Madison: Atwood & Rublee, State Printers, Journal Office, 1867), 26; Williams, 372-373.

U.S. Division of Forestry in 1876.<sup>41</sup> Though Marsh's name lost ground to better known conservationists such as Charles Sargent and Bernhard Fernow, so much so that by the Progressive Era few scholars knew of, let alone read, *Man and Nature*, Marsh had articulated a new set of environmental principles, both ecological and economical, which forestry advocates took up and made standard within the conservation movement.<sup>42</sup>

Marsh indicted the entirety of American environmental culture. No class of American society was safe from his critique; he lambasted industrial capitalists and rural folk alike. Marsh had developed a deep criticism and suspicion of "unscrupulous" capitalists and "joint-stock companies," especially railroads. *Man and Nature* contained a sampling of what had become by 1864 Marsh's usual invective against railroads as irresponsible, badly run threats "to rational liberty, to the moral interests of the commonwealth, to the purity of legislation and of judicial action, and to the sacredness of private rights."<sup>43</sup> He accused railways of swindling investors and of having "no souls; their managers, in general, no consciences." He claimed that private interests had taken over the "public facilities of intercommunication and commerce" and he also asserted "more than one American State is literally governed by unprincipled corporations, which not only defy the legislative power, but have, too often, corrupted even the administration of justice."<sup>44</sup> Marsh cautioned Americans about railroads because of their ability to dominate local environments and economies. His personal dislike for railroad companies had grown out of his interactions with the Vermont Central. According to David

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<sup>41</sup> Bernhard Fernow, *History of Forestry*, 474-475.

<sup>42</sup> Williams, *Americans and Their Forests*, 371; Lowenthal, 302-303, 309.

<sup>43</sup> Marsh, *Man and Nature*, 51-52n53; Lowenthal, 192-196.

<sup>44</sup> Marsh, *Man and Nature*, 51n.53.

Lowenthal, Marsh borrowed money to buy stock in the Vermont Central, but, mismanagement led to the railroad's downfall and left Marsh deep in debt.<sup>45</sup> Railways, Marsh believed, existed for the public good, but they were often run as if they served only to generate wealth for their owners. He critiqued the amount of wood that they used for fuel, sleepers, stations, cars, and much else. He also stated that they charged unfair rates. When Marsh looked at railroads, he saw destroyers of forests and fortunes. And just as he had suggested the state ownership of railroads in Vermont during the 1850s, he declared forests to be so important to both ecologies and economies, that the state should own forests too. "Abundant experience has shown," he argued, "that no legislation can secure the permanence of forests in private hands."<sup>46</sup>

Yet, only portions of these critiques found their way into subsequent tracts of American forestry reform. More common among U.S. forestry advocates in the decades after *Man and Nature* were critiques of modern Americans' habits of consumption. In the major treatises on forestry advocacy that *Man and Nature* inspired, Starr, Lapham, and Hough omitted harsh critiques of capitalism and corporations, but nevertheless assailed both corporate and private consumption of forest resources. These early advocates agreed with Marsh that railroads used an increasingly alarming amount of wood.<sup>47</sup> Starr went as far as to claim that railroads' voracious appetites for fuel wood led to high prices and the "oppression of the industrious poor" who also had to be able to locate and afford fuel.<sup>48</sup> Lapham refrained from criticism of capitalism *per se*, but noted that railroads in

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<sup>45</sup> Lowenthal, 154-155.

<sup>46</sup> Ibid., 250.

<sup>47</sup> Lapham, 25; Starr, 210-211.

<sup>48</sup> Starr, 210.

Wisconsin had voracious appetites for wood. He reported that at current rates Wisconsin railroads required 112,500 acres of forests to provide fuel wood and “2,880 sleepers per mile,” which “must be supplied anew once in six years.”<sup>49</sup> Looking for wood substitutes for Wisconsin’s industries, Lapham concluded that none at present existed. Iron was cheap, “but so much wood is consumed in its production that this is scarcely an advantage.” Coal, as a fuel substitute, quite simply did not exist in Wisconsin. Stone may have served as a substitute building material, Lapham noted, but for fuel, only wood satisfied “and therefore, it must either be preserved or its growth provided for.”<sup>50</sup> While not willing to critique capitalists or industry, Marsh’s followers nonetheless demonstrated the necessity to reform industrial consumption of wood.

But, just as significant to these early forestry reformers, was how individuals, especially farmers, used wood for construction, farming, mining, and other enterprises. Marsh, had led the way critiquing the “slovenly husbandry of the border settler” and the “improvident habits of the backwoodsmen.”<sup>51</sup> Small users, Marsh argued, caused as many problems as industrial forest users because of ignorance and short-sightedness. In America, the problem was worse than in Europe because Americans had built up a perception of “inexhaustible” forest resources and a culture of forest destruction. This culture of forest use required vast reforms. Starr and others echoed Marsh noting that farmers turned their cattle and pigs out into the woods where the animals ate and trampled young growth. Farmers also “cleared up” any standing woods, not simply for fuel, but because “cleared up” landscapes appeared safer, healthier, and more

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<sup>49</sup> Lapham, 25-26.

<sup>50</sup> Ibid., 24-25.

<sup>51</sup> Marsh, *Man and Nature*, 233, 257.

progressive.<sup>52</sup> Settlers, farmers, and lumbermen all appeared to possess terrible appetites for wood, but lacked any forethought or knowledge about how to sustain their rates of consumption. Starr and Lapham further argued that immigration was increasing in the United States and both immigrants and citizens were moving onto the Great Plains where there was a conspicuous lack of timber.<sup>53</sup> All of the signals pointed to an inevitable timber famine, skyrocketing prices for fuel wood, and further damage to the land as people would become desperate and, according to Lapham, “revert to a condition of barbarism!”<sup>54</sup>

Those who took up the call for conservation in the United States had to set Marsh’s grand recommendations within American social, political, and environmental contexts. First, Marsh’s understanding of the role that lands played in American politics was both astute and prescient. Starr resurrected these thoughts in his *Agricultural Report*, and revealed Marsh’s skepticism about the state’s role in conservation. Although Marsh believed that the transfer of lands to the state, as in France and Germany, had been an important reform for Europe, he stated, “this measure would be inadequate to save forests of the American Union.” Starr went on to quote Marsh’s formula for addressing the problem of public and private lands in the United States:

“There is little respect for public property in America, and the Federal Government, certainly, would not be the proper agent of the nation for this purpose. It proved itself unable to protect the live-oak woods of Florida, which were intended to be preserved for the use of the navy, and more

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<sup>52</sup> Starr, 216; See also Michael Williams, *Americans and Their Forests*, 11-14; Nash, *Wilderness*, 28-30.

<sup>53</sup> Starr, 212-213; Lapham, 24.

<sup>54</sup> Lapham, 24.

than once paid contractors a high price for timber stolen from its own forests. The authorities of the individual States might be more efficient.”<sup>55</sup>

Starr, with Marsh in tow, went on to recommend that individual states and the federal government create incentives for private land-owners to reforest lands and prevent waste and fires. Hough agreed, and in 1873 wrote, “...from the theory of our system of government, the power that must regulate and remedy these evils must begin with the people, and not emanate from a central source.”<sup>56</sup> Hough suggested that the state might “adopt some measures” in the name of forestry as long as they did not interfere with “personal rights” or go “beyond the line which limits its duty in the protecting the of rights to its citizens.”<sup>57</sup> Lumbermen concurred. In 1876 an editorialist in the *Northwest Lumberman* claimed “...the chief and only way to incite this conservation policy is the holding out of inducements of immediate profit to the individual.”<sup>58</sup> Early conservationists’ emphasis on state governments and incentives for land-owners reflected Americans’ belief that even the reformatory nature of forestry must respect the American sense of capitalist development.

The solutions that grew out of this assessment of the American political landscape produced three specific policy directions: education and experimentation programs, tree-planting campaigns, and new state-level regulations. Just as Marsh had, Starr and Hough stressed that education was of paramount importance. For Marsh, education too should

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<sup>55</sup> Marsh quoted in Starr, 226. For more on Marsh and his thoughts on the state ownership of forests see *Man and Nature*, 202n.138, 203, and 258.

<sup>56</sup> Hough, “On the Duty,” 4.

<sup>57</sup> *Ibid.*, 6.

<sup>58</sup> N.A., *Northwest Lumberman* (August 19, 1876), 3.

retain a republican structure. “Americans should look,” he wrote, “to the diffusion of general intelligence on this subject[forest conservation], and to enlightened self interest, for which they are remarkable, not to the action of their local or general legislatures.”<sup>59</sup> But for Starr, it was the Department of Agriculture that was the best agency for conducting experiments and publishing their results to farmers and railroad companies. He averred, “great ignorance and stupor exist among our farmers.” If farmers received an education on more efficient uses of the forests “the result would profit this nation tens of millions of dollars,” he claimed.<sup>60</sup> He praised the efforts of the Missouri Botanical Garden in St. Louis for its efforts at educating Americans, but stressed that its collection was too small and limited for significant experiments. It had to be the government because private citizens spent their time accumulating wealth and could not be counted on to amass knowledge or conduct research. And, Hough too appealed to Americans’ sense of individual material prosperity; forest education would pay if Americans understood “that a tree or forest, planted, is an investment of capital, increasing annually as it grows, like money at interest...”<sup>61</sup>

Even as early conservationists agreed on the need for education campaigns and experiments on different species, they succeeded in little but inspiring tree-planting at local levels. An obvious solution to an apparently imminent timber famine and growing wood consumption was to plant trees. Tree-planting campaigns were common features of the earliest conservation efforts. Kansas, one of the treeless Plains states where the growing emigrant population and diminishing wood supply was most evident, initiated a

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<sup>59</sup> Marsh, *Man and Nature*, 259.

<sup>60</sup> Starr, 218.

<sup>61</sup> Hough, “On the Duty of Governments,” 4.

tree-planting bounty as early as 1866. Hough included it as an example of good practice in “On the Duty of Governments.” Nebraska led a similar effort through the initiation of Arbor Day. Other states followed and state-level actions helped to inspire both a national Arbor Day and the Timber Culture Act (1873) – an addendum to the Homestead Act that provided farm land if claimants planted and maintained trees on their homesteads.<sup>62</sup> Because of the widely held belief that forests brought moisture, early conservationists imagined that local or state governments could promote tree growth in the arid West among settlers and that new Midwestern forests would supply the Great Plains with rain and wood. For early forestry advocates, this solution addressed the most pressing problems – the great arid and treeless expanse of the Plains, settlers’ consumptive habits, and rising fuel wood prices. However, these early conservationists hardly constituted a unified movement nor did they envision or design comprehensive policies.<sup>63</sup> And, they were not radicals; they set forestry reforms within the existing environmental culture that rested on agrarian virtue, individualism, and republicanism.

Forestry advocacy at the state level was often a mix of capitalists, naturalists, and agricultural experts who succeeded in directing most early policy recommendations. St Paul, Minnesota hosted the first state forestry association in the nation and it included railroad capitalists, lumbermen, and conservationists. Leonard B. Hodges, who worked for the St Paul, Minneapolis, and Manitoba railway, founded the Minnesota Forestry Association (MFA) along with other local lumbermen and tree-planting enthusiasts in

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<sup>62</sup> Fernow, *History of Forestry*, 476

<sup>63</sup> Pisani in Miller, 27.



1876.<sup>64</sup> The MFA came together less than one year after John A. Warder along with forestry advocates and lumbermen met at a forestry conference in Chicago that resulted in the establishment of the American Forestry Association (AFA).<sup>65</sup> Hodges and the MFA worked with the St Paul and Pacific Railroad to plant trees for future sleepers and fuel in Minnesota's deforested lands and prairies. They also received money from the state legislature for the publication of a manual of tree identification and planting.<sup>66</sup> State-level forestry spread to other states after 1876.<sup>67</sup> Many states created commissions to conduct studies and recommend actions to their legislatures.<sup>68</sup> Underlying this republican structure was the notion that capitalists should grab the reins of forestry before the federal government did. They hoped to stave off the more radical advocates, such as Carl Schurz, who argued as early as 1877 that the federal government should remove lands from entry for the public's sake.<sup>69</sup> Only Ohio had made a provision for acquiring experimental lands on which to study forest growth, and this was largely due to the actions of Warder who

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<sup>64</sup> This railway was known as the St Paul, Minnesota, and Manitoba in Warren Upham, *Minnesota Geographic Names: Their Origin and Historic Significance* (St. Paul, MN: Minnesota Historical Society, 1920). It became the St Paul and Pacific and later the Great Northern. See Fernow, *History of Forestry*, 479; Samuel B. Green, *Forestry in Minnesota* (St. Paul, MN: Geological and Natural History Survey of Minnesota, 1902); Newell Searle, "Minnesota State Forestry Association," *Minnesota History* (Spring, 1974), 16-17.

<sup>65</sup> John A. Warder and others organized the AFA in 1875. In 1882, the AFA merged with the American Forestry Congress after the Congress's first meeting in Cincinnati, Ohio. According to Williams, the Congress included more activist-minded members such as Franklin Hough and Bernhard Fernow. The combined advocacy group called itself the American Forestry Congress until late in 1889 when it changed its name to the American Forestry Association. See Fernow, *History of Forestry*, 479-480; Williams, *Americans and Their Forests*, 403.

<sup>66</sup> Leonard B. Hodges, *The Forest Tree Planters' Manual: "Embodying Such Instructions and Directions for Tree Planting and Cultivation As Experience and Observation Have Demonstrated to Be Useful and Reliable"* (St. Paul, MN: J.J. Lemon, printer, 1879); N.H. Egleston, "The Current State of Legislation in Regard to Forests," *Proceedings of the American Forestry Congress* (Washington DC: Judd & Detweiler, Printers, 1886), 61.

<sup>67</sup> Egleston, "The Current State of Legislation," 60-63.

<sup>68</sup> Fernow, *History of Forestry*, 481.

<sup>69</sup> U.S. Department of the Interior, *Annual Report* (Washington DC: GPO, 1877), 21-22; *Report of the Commissioner of the General Land Office* (Washington DC: GPO, 1877), xvi, xx; Williams, *Americans and Their Forests*, 397.

dedicated 300 acres of farmland for a forest experiment station.<sup>70</sup> More than radical reforms of American environmental culture, these efforts suggested an alternative to the existing policy which assumed that farmers and capitalists were responsible for developing the West through private enterprise and use of the public domain.

The more radical side of forestry advocacy argued for federal ownership and management of forests. The German immigrants, Carl Schurz and Bernhard Fernow, led the way by trying to import some German forestry ideals into America. In their view, state and federal policies that encouraged tree-planting had failed to bring about substantial reforms. The Timber Culture Act (1873), like local tree-planting campaigns, represented forestry ideology only in the sense that it encouraged farmers to plant forests for their own use. But, by the late 1870s, forestry advocates recognized that the Timber Culture Act facilitated land fraud but did not create new forests. It was in this context that Schurz, as the new Secretary of the Interior, issued a circular in 1877 making the General Land Office (GLO) agents responsible for public lands and suggesting that the federal government should take more aggressive approaches to stop timber theft.<sup>71</sup> Partially in response to Schurz's circular, the U.S. Congress passed laws demonstrating their antipathy for land reform. The Free Timber Act, which was directed at nine western states, and the Timber and Stone Act both passed in 1878 and resulted in greater use of the public forests.<sup>72</sup> The "timber acts" of the 1870s stand out as important symbols of Congress's defense of individuals' rights to use the public domain. During the next

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<sup>70</sup> Ibid.; B.E. Fernow, *Report of the Chief of the Division of Forestry* (Washington DC: GPO, 1893), 315-319; Williams, *Americans and Their Forests*, 403; and Cox and Maxwell, et al., *This Well-Wooded Land*, 181. For more on states, see Robbins, *American Forestry*, 34-49.

<sup>71</sup> Williams, *Americans and Their Forests*, 397.

<sup>72</sup> Ibid., 395-399.

decade, forestry advocates fought to reverse these policies and to provide a federal management scheme for the public lands. Although forestry advocates had imagined forestry as a long-term solution to economic development, it quickly became a divisive issue between forestry reform and the expansion of capital and settlement in the West.

Despite these early surveys and studies of the public domain, forestry advocates lacked lands on which to implement a system of federal management. Before 1891, the states and the federal government controlled but did not actively manage the public domain. Since 1812, the GLO's central occupation was the movement of lands out of federal holding and into private hands. But, by the 1880s, the character of forestry advocacy was changing; conservationists argued for state control *and* management of forests on the public domain. At the second meeting of the American Forestry Congress in 1883, the attendees talked strategically around, but not directly about, the creation of federal forest reserves. The President of the Congress, George Loring, described how all efforts to date had not brought "the forests within the pale of well-protected possessions under law." And, at the close of his president's address he left the members only with an allusion: "Of the efforts of the Federal Government to preserve and develop the forests of the public lands of the United States much has been said."<sup>73</sup> The changes to Franklin Hough's advocacy are illustrative. In 1873, Hough stated that only lands that were returned to the federal government for non-payment of taxes should be reserved.<sup>74</sup> And, in Hough's earliest volume of his three-volume set, *Report upon Forestry* (1878-1882), he presented facts and recommended laws against trespass and waste of forest resources,

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<sup>73</sup> George B. Loring, "President Loring's Address," in *Proceedings of the American Forestry Congress* (Washington DC, 1884), 11.

<sup>74</sup> Hough, "On the Duty," 6.

but he said little of federal ownership. But, by Hough's last *Report* in 1882, he recommended that the federal government acquire lands and develop a federal force to patrol and manage the forest reserves.<sup>75</sup> Hough's *Report* and increasing pressure from Fernow, who became Chief of the Division of Forestry in 1886, made land ownership the central controversy among forestry advocates during the late 1880s.

Forestry advocates expressed similar concerns as other social reform efforts that focused on public welfare. Ineffectual government, outright corruption, and the emergence of trusts worried many reformers. In addition, increased lumber production, abuse of the public domain and the GLO's inability to stop the abuse generated a heightened fear of a coming timber famine. Forestry advocates grounded their arguments for federal forests in a growing corpus of surveys, data, and statistics on the forests within the public domain. And, as the New York State Legislature had begun to discuss making much of the Adirondacks into a forest reserve, national forestry advocates increasingly focused on the federal acquisition of lands. Hough defended private land-holding, "so long as a public interest is not injured by his occupation." But, if private lands could be shown to harm public interest, then owners may have to yield "the right of eminent domain as it becomes necessary for public use."<sup>76</sup> As with much else in American life during the late 1880s, forestry reform featured a debate over private and public control.

### **Forestry as a Mission to Western Lands**

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<sup>75</sup> Robbins, *American Forestry*, 3-4; Franklin Benjamin Hough, *Report on Forestry* (Washington DC: GPO, 1882), 7-8.

<sup>76</sup> Franklin B. Hough, "Associations of Interest in Forest Culture," in *Proceedings of the American Forestry Congress* (Washington DC, 1884), 42.

By the 1880s, forestry advocates shifted their focus to the West where large expanses of the public domain lay. Forestry advocates' most significant obstacles when recommending federal ownership of lands were ignorance of western forests and the lack of a federal force to administer and protect the woods. Large amounts of the northern Rockies, the Cascades, the Sierra Nevadas, and other mountain ranges had neither been mapped nor their trees catalogued. As forestry advocates attempted to accumulate information on western forests in order to make their claim that reserves were both necessary and possible, they received help from the U.S. Army and other federal agencies who were interested in the West. The U.S. Army acted as the arm of the American state to control Indians, guard against trespass, and gain knowledge of the landscape. Much of their time was spent attempting to pacify, police, and confine Indians to reservations. But, the Army also patrolled and surveyed western lands for federal scientific agencies such as the National Academy of Sciences and the Smithsonian Institution. Along with a small group of missionaries, naturalists, scientists, and engineers, the Army made up much of the "American civilizing mission" in the West during the 1880s and 1890s.<sup>77</sup>

George Patrick Ahern was an Army officer stationed in the West, and his interest in forestry would eventually take him to the Philippines where he became the first Director of the Philippine Bureau of Forestry in 1900. But, during the 1880s and 1890s, Ahern's reformist background and his military training prepared him to embody scientific forestry as part of the American civilizing mission. Ahern was born in 1859 and raised in New York. He attended West Point and graduated in 1882 last in his class. During the late nineteenth century, Army personnel took up constabulary roles in western forts and

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<sup>77</sup> Adas, *Dominance by Design*, 12.

on Indian reservations, and like many Army officers in the 1880s, Ahern was dispatched to the West. He was assigned to the 25<sup>th</sup> Infantry Regiment, and placed in command of African-American troops. In their effort to pacify Indians and make the West safe for American settlers and capital, the military acted as the lead agent for the U.S. government in the West. But, the officers and soldiers were also more than the sum of their duties; they pursued other interests in the West. Some engaged in capitalist enterprises. Soldiers often found themselves detailed for manual labor. And others, such as Ahern, furthered his knowledge both of natural science and Indians.

Ahern's western postings placed him in contact with people and ideas that stoked an interest in social and environmental reform. He was first posted to Ft. Randall in South Dakota, where the U.S. Army had confined Sitting Bull and his band of Hunkpapa Sioux after their return from Canada. Ahern was assigned to act as Sitting Bull's secretary and he translated the Lakota leader's correspondence from abroad. He also spent time with Sitting Bull's family and developed an enduring respect for the famous Lakota leader.<sup>78</sup> During his work with Indians at Ft. Randall, Ahern acquired a disdain for the ways that the Army and the Office of Indian Affairs (OIA) treated Indians. In reference to Sitting Bull and his band's incarceration, Ahern wrote,

“Ever since 1882 there has been gross and continuous mismanagement of Indian affairs... This able, brilliant people was crushed, held down, moved

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<sup>78</sup> Letter from Gertrude Bonnin (Zitkala-sa) to G.P. Ahern, (December 29, 1934), George Patrick Ahern Papers, Montana State Historical Society; Stanley Vestal, *Sitting Bull: Champion of the Sioux* (Norman, OK: University of Oklahoma Press, 1989 [1932]), 237-238; Gary Clayton Anderson, *Sitting Bull and the Paradox of Lakota Nationhood* (New York: Harper Collins College Publishers, 1996), 130-131; Lawrence Rakestraw, “George Patrick Ahern and the Philippine Bureau of Forestry, 1900-1914,” *Pacific Northwest Quarterly* (July, 1967), 142.

from place to place, cheated, lied to, given the lowest types of schools and teachers, and kept always under the heel of a tyrannical Bureau.”<sup>79</sup>

Along with the Indian Rights Association, Helen Hunt Jackson, and other eastern reformers, Ahern romanticized Indians.<sup>80</sup> For many reformers, Indians’ pride and soulfulness grew as their circumstances worsened at the hands of U.S. agents. Reformers pointed out the mistreatment of Indians and argued that they deserved better.<sup>81</sup> In recognition of this position, Ahern received, in 1934, a seventy-fifth birthday wish from Sitting Bull’s granddaughters Gertrude Bonnin (Zitkala-sa) and L.F. Bonnin thanking Ahern for his “staunch and loyal friendship” and “humanitarian labor” in service to their “tribal grandfather.”<sup>82</sup> Moreover, Ahern began to believe that the ways the United States “civilized” Indians said much about Anglo-Americans as a people. For the rest of his life, Ahern imagined himself as an enlightened champion of the highest notion of Americanism because he argued for a more honorable system of “uplifting” Indians. Indian reform, he and others believed, signified a more progressive society and nation.<sup>83</sup> In 1883, the Hunkpapas left Ft Randall for the Standing Rock Reservation and Ahern was transferred to Ft. Snelling in Minneapolis, Minnesota.

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<sup>79</sup> Ahern quoted in Vestal, 248.

<sup>80</sup> Helen Hunt Jackson, *A Century of Dishonor: A Sketch of the United States Government's Dealings with Some of the Indian Tribes* (Norman, OK: University of Oklahoma Press, 1995[1885]).

<sup>81</sup> These criticisms varied. Jackson’s *A Century of Dishonor* presented a dire situation for Indians while John Baxter Harrison of the Indian Rights Association wrote a much more dispassionate appraisal in *The Latest Studies on Indian Reservations* (Philadelphia: Indian Rights Association, 1887).

<sup>82</sup> Letter from Gertrude Bonnin (Zitkala-sa) to G.P. Ahern, (December 29, 1934) George Patrick Ahern Papers, Montana State Historical Society.

<sup>83</sup> Rakestraw, “George Patrick Ahern,” 142; “Lt Col. George Ahern, An Officer 60 Years,” *New York Times* (May 14, 1942).

At Ft. Snelling, Ahern observed both the vibrant lumber business in the Twin Cities and the growing forestry movement. The 1880s witnessed a massive rise in timber production among states near to the Great Lakes especially Michigan, Wisconsin, and Minnesota. White pine production boomed, and because of abundant water-power, Minneapolis and St Paul combined to produce more than half of Minnesota's 1.3 billion board feet (b.f.) of lumber – about 10% of all the Lake States' lumber– during 1889.<sup>84</sup> The Lake States' lumber production peaked a few years later in 1892, and helped precipitate the national financial panic of 1893. As witness to this furious production, Ahern worried over the depletion of some of the nation's greatest stands of white pine.<sup>85</sup> Beyond bearing witness to the fast-paced lumber industry, Ahern was audience to the struggle within forestry advocacy in the mid-1880s. During the five years that Ahern was posted in Minnesota, he was exposed to the changing shape of national forestry advocacy. The Minnesota Forestry Association was a small, but active group of timber and railroad men who promoted tree-planting campaigns and greater knowledge of tree species. But, the AFA increasingly advocated for federal reserves on western timber lands. With interest growing in western lands, Ahern perceived an opportunity. He recorded later in his life that it was through a conversation with “the adjutant-general of the military department at St Paul” when he first heard about the possibility of exploring mountainous areas of the West in order to advance the government's knowledge of western lands. He was intrigued that “about 10000 square miles of these mountains were indicated by a blank space on a map.”<sup>86</sup> Moreover, both the federal agencies who wanted

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<sup>84</sup> Michael Williams, *Americans and Their Forests*, 224-227.

<sup>85</sup> Rakestraw, “George Patrick Ahern,” 142.

<sup>86</sup> George Patrick Ahern, “Montana's Last Exploration,” *Great Falls Tribune* (April 26, 1931).



to scout uncharted areas of the West, and capitalists and game hunters who wanted Indians pushed off of valuable western spaces hoped to use the military to accomplish their goals. Shortly thereafter, Ahern was transferred to Ft. Shaw in western Montana where he received orders to explore areas of the northern Rockies.

During the 1880s, Hough, Schurz, and Fernow suggested ways that the limited federal presence in the West could be used to advance forestry reform. They focused on the few government-controlled lands that were available before the establishment of the forest reserves of 1891 – especially military posts, Indian reservations, and Yellowstone National Park. But even lands owned by the federal government were often caught up in bureaucratic territorial disputes. Indian reservations, for example, were off limits to any direct forestry intervention until the second decade of the twentieth century.<sup>87</sup> Although in 1889, the U.S. Congress passed The Dead and Down Act permitting the logging of dead and fallen timber on Indian reservations, this Act did not demonstrate the penetration of forestry personnel onto reservations as much as it signaled western non-Indians' persistent attempts to gain access to Indian resources in the West. The Dead and Down Act circumvented an 1873 Supreme Court ruling, *U.S. v. Cook*, that stated timber could not be cut and sold from Indian reservations unless the cutting was incidental to the preparation of the land for agricultural purposes.<sup>88</sup> Though federal forestry agents were sometimes allowed to provide advice on reservation forests, they had no significant influence over forest conditions. If the Department of Interior guarded any area of

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<sup>87</sup> J.P. Kinney, *Indian Forest And Range: A History of the Administration and Conservation of the Redman's Heritage* (Washington DC: Forestry Enterprises, 1950), 79-86.

<sup>88</sup> *United States v. Cook* (1873), 86 U.S. 591. For Indian Forest administration see J.P. Kinney, *Indian Forest and Range*; Alan S. Newell, Richmond L. Clow, and Richard N. Ellis, *A Forest in Trust: Three-Quarters of a Century of Indian Forestry, 1910-1986* (Missoula, MT: Historical Research Associates, 1986), 15-33.

government bureaucracy or land more closely than the public domain, it was the administration of Indian reservations.<sup>89</sup>

Military posts stood out as the best possible spaces for federal forestry experiments. During the late 1880s, Fernow continued to push for federal lands to manage, and in lieu of forest reserves believed, “the military reservations on the Western treeless plains, which are still in the hands of the General Government, be planted to forests and managed as such.”<sup>90</sup> For Fernow, the U.S. military in the West held at least “several hundred thousand acres of forest land” that the government could use without interference from Congress or local people.<sup>91</sup> Between 1865 and 1895, there were about one hundred military posts spread across the American West. But, this large number of posts represented small amounts of federally-controlled land, and few large-scale forestry experiments, except tree-planting, were conducted. Because private land holders retained fear of government intervention in the West, the military represented one of the few options for government forestry. Ironically, the military’s extra-martial duties proved to be far more consequential than the land itself.

The military presence in the West was not only significant for its attempts to “civilize” Indians, but also for its role in surveying and patrolling the western landscape. For example, Yellowstone National Park, established in 1872, served as a forest reserve

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<sup>89</sup> Kinney, *Indian Forest and Range*, 85.

<sup>90</sup> Bernhard Fernow, “Our Forestry Problem,” *Popular Science Monthly* (December, 1887), 235; Rodgers, 112.

<sup>91</sup> Fernow quoted in Rodgers, 498.

and was patrolled by the U.S. Army.<sup>92</sup> As the Army patrolled the West, it restricted Indians' movements and their land use patterns, including the use of fire. Regarding Indians, the Army's combined roles brought together western reform and development by protecting both western capitalists' enterprises and the public forest reserves. As Richard White argued, "the suppression of fire, suppression of Indians, and the conservation of the forests were all intimately linked."<sup>93</sup> Schurz, and later Fernow, both supported using military personnel as forest guards. Schurz argued in 1889, "Part of the public service already existing might well be used for the purpose of guarding at least the forests belonging to the public domain of the United States."<sup>94</sup> Schurz averred that because "the danger of Indian wars on a large scale is now behind us...our outlying military posts may then be abandoned...and two or three battalions be organized as forest guards or forest rangers."<sup>95</sup> And Fernow agreed adding that West Point should have a professor of forestry "where officers may find instruction in the principles of forestry, fitting them to act intelligently as guardians of the public forest property."<sup>96</sup> Schurz and Fernow, promoted such a plan because it was part of the Prussian tradition of forest protection. And, they also convinced Charles Sargent, the American botanist and editor of *Garden and Forest*, who held sway among the U.S. scientific community. According to Pinchot, who was perennially critical of Sargent, the plan for military forest guards was well-

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<sup>92</sup> Rakestraw, "Forestry Missionary," 36-37; Karl Jacoby, *Crimes against Nature: Squatters, Poachers, Thieves, and the Hidden History of American Conservation* (Berkeley: University of California Press, 2001), 98-120.

<sup>93</sup> Richard White, "Indian Land Use," in Steen, *Origins of the National Forests*, 176.

<sup>94</sup> Carl Schurz, *The Need of a Rational Forest Policy in the United States* (Philadelphia: AFA, 1889), 11.

<sup>95</sup> Ibid.

<sup>96</sup> B.E. Fernow, "Forest Conditions and Forestry Problems in the United States," *Proceedings of the American Forestry Association* (Washington DC: AFA, 1894), 33.

developed and moving forward.<sup>97</sup> Such a combination of military force and forest protection reflected conservationists' belief that forest conditions, much like foreign relations, existed at the center of national well-being.

Furthermore, the Army possessed the personnel and equipment to carry out geographic and scientific surveys in distant western lands. After Ahern was transferred to western Montana, he mapped a number of uncharted forests. Between 1888 and 1891, Ahern explored areas of the northern Rockies and developed a modest amount of fame for his knowledge of the Bitterroot Valley, the mountainous regions that became Glacier National Park, and other parts of Montana and Idaho.<sup>98</sup> Julian Ralph, a reporter for the *New York Sun* and *Harper's Magazine* claimed that Ahern "had been the first white man to find and map several important passes," and that his life "was full of adventure and hair-breadth escapes." Making great copy out of what was often the mundane life of a western Army officer, he went on to claim that Ahern "reported the merits of imperial areas of new land."<sup>99</sup> The article also credited Ahern for "philanthropically" devoting his time to mapping the area so that the "Great Northern Railroad...will open up this rich territory, and will develop the timber resources as well as the coal, oil, and natural gas."<sup>100</sup> Though Ralph assumed Ahern's duty was to open the western lands for private development, Ahern's experiences touring and mapping the Northwest led him to blaze a path for forestry advocacy in Montana, a state whose politicians and capitalists remained staunchly opposed to the forestry movement.

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<sup>97</sup> Pinchot, *Breaking New Ground*, 87-88.

<sup>98</sup> Julian Ralph, "Montana: The Treasure State," *Harper's New Monthly Magazine* Vol. 85, No. 5 (June, 1892), 99; N.A., "Lieut. Ahern, the Explorer, in Town," *New York Sun* (March 29, 1894), 9.

<sup>99</sup> Ralph, "Lieut. Ahern, the Explorer, in Town."

<sup>100</sup> Ralph, "Montana: the Treasure State."

As Ahern traveled around the northern Rockies, he witnessed industrial logging and noted areas, such as the Bitterroot Valley, that he believed should be spared the axe. He joined with the few local forestry advocates and formed a small, but determined body to spread the message that forestry did not represent a threat, but rather a boon to western enterprises. In Montana, he began to regard himself as a “forestry missionary” whose calling it was to convert western peoples to a new way of thinking about forests and the federal government. Proselytizing to western Americans meant introducing a Progressive vision of Americaness that recognized the need for collective welfare and state intervention. As an Army officer, Ahern acted as an unapologetic agent of the state. He believed in the virtues of the state to civilize the West. But, he also began to identify with contemporary social and political reformers who questioned the ways that pacification, settlement, and development were unfolding.

By 1894, having obtained some prominence among eastern conservationists, Ahern had become a bona-fide member of the elite U.S. forestry advocates. Eastern newspapers chronicled his explorations in the West, and he was invited to join the privileged company of the Boone and Crockett Club, which counted among its members prominent conservationists such as George Bird Grinnell and Theodore Roosevelt, its founder.<sup>101</sup> Because Ahern was posted in the West, he offered eastern conservationists a connection to the region that so concerned the Boone and Crockett Club and other eastern conservation groups. In 1894, against western opposition, the Club supported a bill in the U.S. Congress to preserve Yellowstone Park for game.<sup>102</sup> Proponents of the bill invited

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<sup>101</sup> Rakestraw, “George Patrick Ahern,” 142.

<sup>102</sup> This was known as the Yellowstone Park Protection Act. See George Bird Grinnell, *A Brief History of the Boone and Crockett Club* (New York: Forest and Stream Publishing Co., 1910), 21; John F. Reiger,

Ahern to Washington DC to offer his thoughts on the Yellowstone issue. He met with both Edward Bowers, Assistant Commissioner of the GLO, and for the first time, Bernhard Fernow, then Chief of the U.S. Division of Forestry and head of the AFA. Ahern, knowing little of scientific forestry, looked to Fernow as a mentor and an important contact in Washington DC. For the rest of his career, Ahern solicited Fernow's advice on forest management. Ahern gave the Washington bureaucrats a favorable review of the proposed Yellowstone bill and President Cleveland signed it into law later in 1894. Yellowstone, with its military patrols, its belt of timber reserves after 1891, and its new status in 1894 brought together a number of conservationists' interests and signaled that forestry advocacy was gaining support and power in U.S. politics.

After 1894, Ahern returned to the West to resume his missionary activities. Ahern continued to expand the influence of state forestry among timber, railroad, and mining interests. In 1896, he joined the AFA and organized the Montana Forestry Association as a branch of the AFA.<sup>103</sup> Despite having no formal training of his own (few Americans did in the 1890s) he also taught forestry at the agricultural college in Bozeman, which Gifford Pinchot later claimed was "the first systematic instruction in Forestry given in America."<sup>104</sup> In addition, Ahern gave a number of speeches on the need for forestry in Montana. He successfully recruited additional members to the cause and managed to infuriate U.S. Senator Thomas Carter, an ally to timber and mining interests.<sup>105</sup> By the

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"Wildlife, Conservation, and the First Forest Reserve," in Char Miller, 35-44 and Jacoby, *Crimes Against Nature*, 126.

<sup>103</sup> *Proceedings of the American Forestry Association* Vol. 11, (1896).

<sup>104</sup> Pinchot, *Breaking New Ground*, 100.

<sup>105</sup> Much of this paragraph has been drawn from many sources but is unavoidably similar to Rakestraw's narratives in "George Patrick Ahern," 142-143 and "Forestry Missionary," 38-39.

late 1890s, even as the idea of federal reserves was gaining allies, Carter and other representatives of western capital remained convinced that federal reserves threatened economic development.

But, in 1896, Ahern met his most significant allies when Gifford Pinchot and Henry Graves, one of Pinchot's closest allies and the future Dean of the Yale School of Forestry, traveled west. Graves went to scout areas of the Northwest including the proposed Cascade Forest reserves in Washington State. Pinchot was part of the National Forest Committee selected by Secretary of the Interior Hoke Smith to report on the possibility of reserving timber lands in the "Western States and Territories."<sup>106</sup> The committee consisted of the botanists Charles Sargent and William Brewer, civil engineer Henry L. Abbot, mining engineer Alexander Agassiz, geologist Arnold Hague, chemist and President of the NAS Wolcott Gibbs, and Pinchot. Ahern guided the Committee members through parts of Montana and Idaho.<sup>107</sup> Regarding Ahern, Pinchot wrote home "It would be impossible to select a better companion for a mountain trip," and he claimed that many of Ahern's "personal suggestions" made it into the Forest Committee's final report.<sup>108</sup> The Committee recommended a number of significant changes to the public domain in the West including: 1) that the Army continue to patrol the western forests until a corps of forest rangers could be trained and dispatched, 2) that "all public lands...more valuable for the production of timber than for agriculture or mining shall be withdrawn from sale, settlement, and other disposition and held for the growth and sale of

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<sup>106</sup> Sen. Doc. 105, *Report of the Committee Appointed by the National Academy of Sciences Upon the Inauguration of a Forest Policy for the Forested Lands of the U.S.*, (Washington D.C.: GPO, 1897).

<sup>107</sup> Rakestraw, *Forestry Missionary*, 40.

<sup>108</sup> Pinchot, *Breaking New Ground*, 93, 100.

timber,” 3) that the Secretary of the Interior create a forestry bureau and system of management for these new “reserves,” and 4) that parts of the Mount Rainier and Grand Canyon forest reserves be made into National Parks.<sup>109</sup> These recommendations represented radical changes to the public domain and they encapsulated a number of forestry advocates’ goals. After their meeting in Montana, Pinchot remembered Ahern as a useful western ally who shared broad reform ideas about how the United States, as a nation, should attempt to “civilize” both peoples and lands according to Progressive notions.

With the help of both the U.S. Army and the National Academy of Sciences, forestry advocacy had made its point about western lands. The Forest Committee’s work was central to the AFA’s Congressional bill for additional forest reserves. In 1897, President Cleveland signed the law creating over 20 million acres of new forest reserves in the West, and later that year Congress appropriated funds for the management of the new reserves. But even this enormous gain for forestry advocacy was reduced by the fact that the General Land Office (GLO) yet controlled the forest reserves. Over the next several years, Pinchot would battle the GLO for control of the forests while the GLO itself was under broad investigations for fraud involving the new reserves.<sup>110</sup> Fraud charges confirmed what U.S. reformers already knew – that the federal government was rife with corruption and western lands were at the center of it. Forestry advocates found that their environmental reform required wider governmental reforms such as greater regulatory oversight. Forestry advocates had successfully accessed the power of the state

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<sup>109</sup> *Report of the Committee*, 34-35.

<sup>110</sup> Gerald W. Williams, “John B. Waldo and William G. Steel: Forest Reserve Advocates and the Cascade Range of Oregon,” in Steen, *Origins*, 328-329.



to patrol western lands and to demonstrate how forestry officials could aid consumers of forest products.

In 1898, forestry advocates celebrated the new reserves and began to imagine how U.S. forestry officials could make logging and other forest use more efficient. Ahern participated by recommending ways that the government could reform western land use. He published an article in *The Forester* titled, “The Sale of Timber in the Forest Reserves” in which he critiqued the current methods of woodcutting in Montana. He explained how a new, better system of timber sales would reform the hiring of laborers and the extraction of timber from government lands. He thought it “quite a novel proposition” that “a system of carefully-drawn contracts, previously explaining to the bidder just what would be required of him,” would demonstrate responsible forestry practice.<sup>111</sup> With no formal forestry training, Ahern had learned much from his friends in eastern forestry circles, and the ideas that he formulated in Montana presaged the methods that he would introduce in the Philippines.

Ahern continued his missionary work in Montana and endured the constant ire of Senator Thomas Carter who sat on Congressional western land committees and remained adversarial to federal ownership of lands. Then, in 1899, Ahern helped to establish a demonstration forest at the agricultural school in Bozeman with local support. Ahern reaped the benefits of his years of proselytizing when influential residents of Montana asked that he be made Superintendent of Yellowstone National Park, but Carter blocked that appointment.<sup>112</sup> Instead, Ahern was shipped to the Philippines, but remained under

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<sup>111</sup> George P. Ahern, “The Sale of Timber in the Forest Reserves,” *The Forester* (February, 1898), 44-45.

<sup>112</sup> Rakestraw, “Forestry Missionary,” 42.

the watchful eye of his old friend, now Chief of the U.S. Division of Forestry, Gifford Pinchot.

In 1899, after the U.S. fleet defeated the Spanish navy in Manila Bay and the United States annexed the Philippines, U.S. imperialists perceived a multitude of new opportunities in the islands. The forests, which were not familiar to most Americans, drew considerable attention because of the promise of tropical hardwoods. Americans had been aware of tropical timbers and other tropical forest products from colonial South and Southeast Asia. And, although they knew about the bounty to be found in the tropics, they had only vague information on the Philippines. Moreover, U.S. forestry advocates had been inspired by British colonial foresters in India. Dietrich Brandis and William Schlich, both former Inspector-Generals of the Indian Forestry Service, had taken Pinchot as a forestry student in Germany. Brandis taught Pinchot at the French forestry school in Nancy and afterwards advised Pinchot on matters of forest management. British colonial forest management was highly regarded among European leaders, and Pinchot believed that U.S. forestry in the Philippines would similarly bolster the U.S. image. If the British had become famous for moving beyond mere mercantilist colonialism by instituting scientific forestry in India, Burma, and Malaysia, then the Americans would surely surpass them by establishing an exceptional forestry regime dedicated to nation-building, social uplift and economic development in the colonial Philippines.

Furthermore, for Pinchot, the Philippines was a great place to advance American forestry because it existed outside of the democratic restrictions of the United States.<sup>113</sup> In the colonial Philippines, he later told Yale students, “You are entirely free from official

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<sup>113</sup> Bankoff in McCoy and Scarano, *Colonial Crucible*, 487.

pressure to carry out the things that you really want done.”<sup>114</sup> In order to carry out the things that Pinchot really wanted done, he wrote to James Wilson, Secretary of Agriculture and a fellow forestry proponent, and suggested that Ahern would make a good Chief of the Philippine Bureau of Forestry. Wilson concurred, and Ahern was promoted to Captain and transferred to the Bureau of Forestry in Manila. The Philippines offered forestry advocates an excellent chance to accomplish what could not be done in the American West due to Congressional opposition. As geographer Julie A. Tuason has written, the American mission in the Philippines depended upon the “twin imperatives” of “commercial development and moral tutelage.”<sup>115</sup> In the American West, such a dualism was not possible. Not because capitalists and forestry advocates had such different ideas about forest use, but rather because the mode of land ownership – private vs. public – made the two appear more divided than they actually were. However, under the banner of imperialism, U.S. forestry’s reform elements and its promises to aid capitalist development were folded together and redefined as a symbol of American civilization.

For American imperialists, the beginning of a colonial venture in the Philippines, which rested heavily on a moral argument, required deriding the Spanish colonial administration as cruel, ineffectual, and lacking moral responsibility. In addition, Americans often condemned the Spanish for leaving both the peoples and the resources of the Philippines “underdeveloped.” Pro-imperialist Americans found the Philippines a great source of arguments for ways that social reform and economic development would

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<sup>114</sup> Gifford Pinchot, “Talks No. 10,” (March 16, 1903), Pinchot Papers LOC Box 640.

<sup>115</sup> Julie A. Tuason, “The Ideology of Empire in National Geographic Magazine’s Coverage of the Philippines, 1898-1908,” *Geographical Review* Vol. 89, No. 1 (January, 1999), 35.

display an exceptional American imperialism. According to Dean C. Worcester, the zoologist and member of the Philippine Commission, the Spanish authorities came to the Philippines “with the deliberate and frankly expressed purpose of improving their pecuniary status.” In their greed, the Spanish had refused to educate and care for Philippine peoples stricken by disease, he claimed.<sup>116</sup> Worcester’s arguments can be traced to those aspects of American civilization that he and other reform-minded Americans believed elevated their own society – education, modern science, and capitalism. In the case of the Philippines, reformers could make the case that Filipino/as needed specifically American intervention for their own sake. The Spanish had kept Filipino/as locked in the past, the argument ran, but Americans offered modern reforms. And, where the Spanish had failed to develop the resources, the Americans would cultivate the natural richness of the islands not only for American entrepreneurs, but also for the economic improvement of the Philippines and Philippine peoples.

On April 14, 1900 Ahern assumed control of the Spanish forestry bureau in Manila, the *Inspección general de Montes*, and began reconstructing the work of Spain’s colonial foresters. Although Ahern criticized the many peoples who lived and worked in the islands, he did not entirely disavow the *Inspección de Montes*. Instead he offered a nuanced assessment of the Spanish forestry administration.. He stated “The forestry laws and regulations in force in August, 1898, are found to be excellent, practicable, and in line with the most advanced forestry legislation in Europe...,” but, he found “these laws and regulations were not fully enforced, and scientific forestry not practiced.”<sup>117</sup> Despite

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<sup>116</sup> Dean C. Worcester, “Spain and the Philippine Islands,” *The Independent* (April 14, 1898), 5.

<sup>117</sup> *Report* (1900), 2.

Americans' regular criticisms of the Spanish as administrators, in no sense did Ahern ignore the work of the *Inspección de Montes*. Rather, because of Ahern's lack of forestry expertise, he took advantage of the Spanish forestry work and all other available sources when organizing the U.S. Bureau.<sup>118</sup> He ordered the Spanish forestry records to be sent from the Spanish archives and set his translator to work transferring Philippine botanical knowledge and regulations from Spanish into English. The Spanish records were substantially less than they might have been because a fire in 1897 damaged or destroyed much of the botanical archives, forest maps, and the adjacent gardens. Nevertheless, the legacy of Spanish forestry provided Ahern with a foundation both for criticism and for moving quickly forward with his plans.

The existence of a forestry bureau prior to American occupation also served as political fodder for U.S. forestry reformers who suggested that the United States, by resisting federal forestry, stood in the shadow of the most backward of European nations. One newspaper reported, "Under Spanish rule the timber lands of the Philippines were in charge of a department of forestry, and certainly the United States should not be behind its predecessor in caring for the trees."<sup>119</sup> Another, noting that Ahern was initially permitted only a small staff of four foresters, two rangers, a stenographer, and a translator, criticized the Insular government, "It seems that the Spanish had a very complete system of forest inspectors in the Philippines, with foresters, draughtsmen,

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<sup>118</sup> Greg Bankoff, "A Month in the Life of José Salud, Forester in the Spanish Philippines, July 1882," *Global Environment* 3, (2009): 19-20; McCoy and Scarano, *Colonial Crucible*, 11-12.

<sup>119</sup> N.A., *Troy, NY Times* (March 8, 1901), FHS USFS Newspaper Clipping File Box 28, Folder, "Philippines Forests and Forestry."

clerks, rangers, etc.”<sup>120</sup> But, the presence of a Spanish forestry bureau also allowed Americans to criticize the Spanish administration for leaving the Philippine forests and forest product markets undeveloped. Following the Bureau of Forestry’s first official *Report*, newspapers stated that the Spanish laws “were not fully enforced, the licensees cutting any and everything. The natural result was that valuable rubber, gutta percha, and ylang ylang trees were taken and even the most valuable used as firewood.”<sup>121</sup> Forestry advocates could challenge Americans in the metropole to catch up to the modernized ways of its supposedly retrograde colony. At the same time, they could state that the Spanish forestry system had gone unenforced and required American oversight to fully realize its potential. Both the shortcomings and the accomplishments of Spanish forestry helped bring together the agendas of U.S. imperialists and forestry advocates.

Spanish forestry in the Philippines was itself an attempt to instill liberal environmental and social reforms.<sup>122</sup> According to Greg Bankoff, as early as the late sixteenth century, the Spanish maintained colonial laws protecting indigenous access to forests and prohibiting activities that threatened the forests’ reproduction. Moreover, the Spanish also imagined themselves to be advanced colonizers in comparison to other European empires. Just as the Americans criticized the Spanish, the Spanish had derided “the English and Dutch who were solely interested in maximizing profits.”<sup>123</sup> After 1863,

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<sup>120</sup> N.A., *Sacramento Record* (March 11, 1901), FHS USFS Newspaper Clipping File Box 28, Folder, “Philippines Forests and Forestry.”

<sup>121</sup> N.A., *Brooklyn, NY Eagle* (November 26, 1900), FHS USFS Newspaper Clipping File Box 28, Folder, “Philippines Forests and Forestry.”

<sup>122</sup> For global rise of state forestry see Tucker, *Insatiable Appetite*; Potter, “Forests versus Agriculture,” 29-71; P. Vandergeest and N. Peluso, “Empires of Forestry: Professional Forestry and State Power in Southeast Asia, Part 2,” in *Environment and History* 12, 1 (2006), 359-393.

<sup>123</sup> Bankoff, “A Month in the Life,” 20.

Spanish governance of the Philippines reflected some of the general reforms that swept Spain such as free primary education in villages.<sup>124</sup> The reforms also created a forestry bureau to oversee timber-cutting for the expansion of agriculture and commercial timber production. According to Regino Garcia, a member of the *Inspección de Montes* who stayed on after American occupation and wrote a history of Spanish forestry in the islands, the Spanish crown was also concerned with deforestation. During the early 1870s, the *Inspección de Montes* increased its botanical knowledge of the islands, and, with the arrival of Sebastian Vidal y Soler, a forest engineer, produced more taxonomical information on the islands' plants. After 1874, Vidal expanded the Spanish bureau's administrative capacities, working forest plans, and surveys of the islands. He also wrote a number of books on Philippine botany. And though he served intermittently as Chief of the bureau due to absences and illness, he nonetheless contributed to its overall development.<sup>125</sup> Although Americans found it easy to criticize the Spanish bureau, Vidal and others had endeavored to reform both knowledge and management of the Philippine forests along the current trends in European scientific forest management. By the time that Americans arrived, the *Inspeccion de Montes* had a broad mandate containing administrative, investigative, protective, and regulatory duties.

Nevertheless, Americans criticized the Spanish bureau for merely collecting revenue and doing little else. But, the U.S. Insular Bureau of Forestry accomplished little more during the early years of colonization as it encountered a number of problems that

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<sup>124</sup> Patricio N. Abinales and Donna J. Amoroso, *State and Society in the Philippines* (Lanham, MD: Rowman and Littlefield Publishers, 2005), 84-88.

<sup>125</sup> Regino Garcia, "Brief Review of the Forestry Service during the Spanish Government from 1863 to 1898," Pinchot Papers LOC Box 586, 1-7; George Patrick Ahern, *Important Philippine Woods* (Manila: BOP, 1901), 101-102. See also Bankoff, "A Month in the Life," 19-28.

had plagued its Spanish predecessor. Foremost was the recruitment of employees. According to U.S. critics, the Spanish had also fostered this problem by only employing Spaniards with experience in the Peninsular Forest Service. Garcia wrote that nearly all of the government positions privileged Spaniards, and U.S. imperialists exploited this observation to further their accusations of a restrictive and ineffectual Spanish administration in need of reform.<sup>126</sup> Ahern claimed, “no native had been permitted to take” scientific forestry courses in Spain and “no Filipino was permitted to hold any of the higher positions in the service.”<sup>127</sup> In addition to instituting better forest management, the U.S. colonial officials claimed that they would also reform the civil service by training Filipinos to ascend to the highest posts in the service. However, the Americans also experienced much difficulty in recruiting staff. For the few U.S. forestry officials who existed in the first years of the twentieth century, the Philippine Islands was far from home, and many forestry specialists from the metropole did not want to serve in the dangerous tropics. Despite the boastful rhetoric, the U.S. colonial forestry administration struggled from the first to carry out a better form of colonialism.

Furthermore, part of what justified American desires to intervene in a revolution across the Pacific, was the belief, as Dean Worcester claimed, that the Spanish colonial administration was “hostile to every foreign enterprise.”<sup>128</sup> Again relying on the trope of Spanish backwardness, Americans claimed that the Spanish had restricted trade and foreign business in the archipelago. The travel writer Frank G. Carpenter, who promoted

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<sup>126</sup> Garcia, “Brief Review,” 7. Ahern noted that many of the Assistant Foresters were “natives as a rule” because of the lack of experienced Spaniards.

<sup>127</sup> *Report* (1901), 10; *Report* (1900), 2.

<sup>128</sup> Dean C. Worcester and Frank S. Bourns, “Spanish Rule in the Philippines,” *The Cosmopolitan* (October, 1897), APS Online, 593.



U.S. imperialism in the islands, claimed, “None of the mines is worked and the incentive under the iniquitous Spanish government has been to let them lie undeveloped and untouched.”<sup>129</sup> These critiques were part of the “underdevelopment” thesis put forward by imperialists seeking to justify war with the Spanish and colonialism in the Pacific.<sup>130</sup> For Americans, permitting resources to go undeveloped was akin to waste; responsible managers would bring the resources under a capitalist system. The Philippines, with its strategic location near to China, Australia, and the rest of South and Southeast Asia, stood out as a potential gold mine of agricultural, forest, and mineral products to make Americans both munificent colonizers and quite rich.

In addition to buttressing colonialism, the underdevelopment thesis was significant for the way that U.S. imperialists articulated a new justification for imperialism. Through the concept of “development,” Americans moved away from a strict dependence on racial justifications for ruling over non-white peoples. Instead, U.S. imperialists produced a persuasive (to some) language for claiming the rights to rule a colony for its own educational, economic, and technical benefit. This was a key element of the old, but evolving, claim that the United States was an exceptional nation driven by progress. Post-emancipation racial theorists and social reformers noted the breakdown of clear racial lines as “over-civilized” whites failed to thrive in modern, urban life. As Paul Kramer has argued, this disintegration of older racial hierarchies allowed Americans to construct new racial divisions in the Philippine between “Christians” and “non-Christian” peoples. This division also facilitated the development thesis: Americans would develop

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<sup>129</sup> Frank G. Carpenter, “Resources of the Philippines,” *Omaha Bee* (February 14, 1900), FHS USFS Newspaper Clipping File Box 28, Folder, “Philippines Forests and Forestry.”

<sup>130</sup> Adas, *Dominance by Design*, 147.

the partially civilized “Christian” Filipino/as who would in turn rule over and develop their less-civilized “non-Christian” countrymen.<sup>131</sup> (Ironically, it would be decades before the United States would officially endorse a similar “development” policy among Native Americans.) For imperialist reformers, Filipino/as did not need white *masters*, they needed white *tutors* as much in forestry and engineering as in medicine or education to help them develop American-styled civilization.

Colonial forestry folded reform, capitalist exploitation, and the American civilizing mission into a single ideology that both justified imperialism and promised to demonstrate forestry’s benefits to Americans at home. Forestry officials and imperialists reminded Americans through newspapers, official reports, and trade bulletins that the colony would benefit U.S. wood consumers, wood producers, and markets. At the same time, the bureau had to guard against anti-imperialists, muckraking journalists, and other reformers who watched the colony closely to see if development and reform schemes would actually benefit Filipino/as or serve as an arena for corruption and political cronyism. From the first, Ahern was forced to juggle these many commitments in order to prove that state forestry and the political commitment to conservation more broadly belonged within definitions of Americanism.

During the first couple of years of colonization, Ahern and Pinchot laid out the reforms and development plans for the islands’ forests. Their reform agenda focused on the similar shortcomings of both the Philippines and the United States such as the lack of formal forestry education, ad hoc labor relations, and the limited role of the state in local forest use. American universities had only been training foresters officially since 1898

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<sup>131</sup> Kramer, *The Blood of Government*, 161-162.

with the opening of the New York State College of Forestry at Cornell. Following the U.S. lead, Ahern desired to open a forestry school in the islands by 1902, paid for with revenue, to train Filipinos in the bureau's work. Also, he wanted to send Filipino students who had some training in the natural sciences to forestry schools in the United States. He standardized pay, fired "native officials...for neglect of duty and disobedience of orders," and hired new rangers, inspectors, and clerks.<sup>132</sup> Along with educating forestry officials and professionalizing the bureau, Ahern's attention to labor and land tenure were influenced by the civilizing mission of the broader U.S. imperial administration.

However, due to the colonial condition of the Philippines, the Philippine Bureau of Forestry retained broad powers that were not shared by its counterpart in the United States. As the *Inspeccion de Montes* had done, the U.S. colonial administration retained control of all forests on the public domain, which was all except 1% of the islands' forests. The bureau no longer permitted the sale of public forests, thus avoiding one of the central problems for federal foresters in the United States: privately held forests. Unlike in the United States where private lands and landowners represented a major obstacle to reform, the colonial condition of the Philippines allowed forestry officials to make policy without considering private landholders. In addition, the colonial administration charged the Bureau of Forestry with assessing all public forests to determine whether they were better for permanent forests or for conversion into agricultural lands. As historian Lesley Potter has pointed out, this duty gave U.S. forestry officials a strong position relative to other Southeast Asian colonial forestry offices. With such far-reaching powers, U.S. forestry advocates believed that the Philippines provided

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<sup>132</sup> *Report* (1900), 3 *Report* (1901), 3.

ideal conditions to show what U.S. scientific forestry could do both as an imperial and a domestic state effort.

A large part of Ahern's reform agenda included demonstrating how private enterprise and the state forestry bureau could work together ostensibly for everyone's benefit. Pro-imperialist observers had whet Americans' appetites claiming that the Philippines held amazing tropical forest products. Ahern assessed the state of the timber, lumber, and so-called "minor forest products" industries and suggested, "the state and lumbermen should work together."<sup>133</sup> Ahern promised American timber and lumber capitalists that they could secure great fortunes in Philippine timbers stating, "The demand for timber is strong...The China market for Philippine woods is very good."<sup>134</sup> However, part of the tension within the U.S. forestry agenda, which sought to increase state power and institute vast reforms, was that forestry advocates had to both promote the strengths of potential products and reveal the weaknesses of the current social, economic, and environmental conditions. Ahern was forced to warn investors "to take their time in closing any important transaction out here, especially in the line of forest products" because of the many challenges that Americans were encountering in the new colony. The ongoing "insurrection," as well as the lack of labor, roads, maps, and forestry officials forced Ahern to admit in 1900, "Lumber companies will not be ready to do much business for at least one year."<sup>135</sup> In addition, the vast forests with many unknown tree species may have held promise, but they also raised concerns about the Americans' ability to promote and engineer capitalists' success. Ahern tried to temper his more

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<sup>133</sup> *Report* (1900), 7.

<sup>134</sup> *Report* (1901), 8.

<sup>135</sup> *Ibid.*

surprised and negative reactions to the islands with hopeful news. “Preparations are being made in a number of places in these islands by lumber companies to exploit the public forests,” he pronounced. When U.S. newspapers picked up Ahern’s reports, they amplified both his optimism and his warnings. Nevertheless, both optimism and skepticism about the possibilities for reform and development only reinforced the American mission to “civilize” the islands under a regime that conflated environmental reform and capitalist exploitation.

But, not everyone bought into the Progressive attempts to combine strong state-capital cooperation in the colony. Ahern’s reports and newspaper accounts of Philippine timber investments also brought questions from anti-imperialists about the Bureau of Forestry’s ability and sincerity to *both* reform and develop the islands. That is, the power of the colonial state only increased some Americans’ concerns that government corruption would endanger democracy in the Philippines. Early in 1901, reporters broke a story of corruption that appeared all too familiar to reform-minded Americans. Journalists highlighted the ways that some imperialists had looked at the Philippines as an extension of the American West where capitalists could exploit the public domain for personal profit. One who saw the Philippines this way was U.S. Representative from Iowa John Hull. Playing on Horace Greeley’s famous line “Go West, young man and grow up with the country,” Hull told newspaper reporters, “If I were a young man, I don’t know where I should rather go than to the Philippines. For a man of brains and industry, the islands open a vast prospect in almost every line of business for one who has grit to go there and stick to it.”<sup>136</sup> But, newspapers did not merely grab a quote from Hull because he likened

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<sup>136</sup> Hull quoted in *City and State* Vol. 11, No. 11 (September 12, 1901).

the islands to the American West, but rather because he appeared to be using his position in Congress to make profits from the ongoing war in the archipelago. And, reporters questioned just what role American forestry officials would play in facilitating or halting corruption between the colony and the metropole.

In 1900, Hull and several other businessmen organized the Philippine Lumber and Development Company “with a capital of five million dollars,” in Chicago. Hull was named President. This Company was the first large-scale American firm in the islands and it set out to supply lumber specifically for U.S. government contracts and particularly to the U.S. military. Hull came under fire in the press because he sat on the House Committee on Military Affairs, which appropriated money for military spending and awarded military contracts. The press picked up the story after Senator Richard F. Pettigrew from South Dakota, an anti-imperialist, pointed out the conflict of interest, “The larger the Army in Manila, the more money appropriated, the greater the profits of the Philippine Lumber and Development Company, the more roads built the more shekels pour into the pockets of the people who vote appropriations out of the treasury of the United States.”<sup>137</sup> Other newspapers editorialized on the broader implications. The *Baltimore Sun* commented, “If favored interests are given the most favored concessions the timber will soon be in the control of a trust, and the average American will derive no benefit from the acquisition of the Philippines.”<sup>138</sup> For the *Sun*, the problem was two-fold: large capitalists were favored over “the ambitious young man of limited means.”

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<sup>137</sup> N.A., “The Thrifty Hull of Iowa,” *The Conservative* (April 4, 1901), 6.

<sup>138</sup> N.A., “Forests of the Philippines,” *Baltimore Sun* (April 6, 1901). FHS USFS Newspaper Clipping File Box 28, Folder, “Philippines Forests and Forestry.” See also “Imperialism and the Land Question,” in Philip S. Foner and Richard C. Winchester, *The Anti-Imperialist Reader: A Documentary History of Anti-Imperialism in the United States*, Vol.1, (New York: Holmes and Meier Publishers, Inc., 1984), 246-248.

And, the revenue of the islands benefitted “trusts” instead of being “administered mainly for the benefit of the people of the archipelago.”

The accusations troubled Ahern and Pinchot because they believed in the federal government’s responsibility to integrate capitalist development with state-managed forests both at home and abroad, not to facilitate crony capitalism. During the period of martial governance in the islands (1899-1901), the military authority in Manila controlled forest lands, and the Philippine Lumber and Development Company received lands and contracts from the U.S. government. After the passage of the Spooner Amendment, which ended the military’s control of administrative capacities in the islands, Hull’s company was forced to cooperate with the Bureau of Forestry. When critics charged that trusts would “carry out a scheme for acquiring large property interests,” Ahern was quick to point out that government land could only be accessed through a license, not by purchase.<sup>139</sup> Ahern’s initial policy was to allow large companies, such as Hull’s, to apply for a one-year, renewable license. By American standards, the withdrawal of lands from sale and restrictions on access to public lands constituted a radical shift in policy. Forestry advocates in the United States had supported such a shift in U.S. policy, but the existence of vast private forests in the United States meant that forestry officials were forced to collaborate with private land holders. Not so in the Philippines where private forests amounted to only 263,000 acres of what Ahern believed to be between 40 and 50 million acres of forests in the islands.<sup>140</sup> The bureau had gained an incomparable opportunity to showcase the benefits of state forestry, and Ahern and Pinchot were eager

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<sup>139</sup> N.A., *Terre Haute Gazette* (July 8, 1901). FHS USFS Newspaper Clipping File Box 28, Folder, “Philippines Forests and Forestry.”

<sup>140</sup> *Report* (1905), 61.

to demonstrate that their bureau acted as a gatekeeper, not only against timber thieves, but also against corruption.

The scramble for reform and economic opportunities in the islands even divided those within the colonial administration, a group who often appear monolithic in their attempts to control the colony. For instance, among the Philippine Lumber and Development Company's officers was Frank S. Bourns, a University of Michigan graduate, medical doctor, and long time personal friend of Dean Worcester, the American zoologist, member of the Philippine Commission, and Secretary of the Interior in the Philippines until 1913. The two men had attended the University of Michigan together. In 1887, they took a trip to the Philippines with Joseph B. Steere, a University of Michigan zoologist who had conducted scientific trips to Southeast Asia since 1875. The men had numerous adventures together, and Bourns's various entrepreneurial enterprises in the Philippines were nearly all tied to Worcester's influential positions.<sup>141</sup> While official records speak to warm relations between Worcester and Ahern, privately Ahern accused Worcester of starving the bureau of funds in order to help Bourns's timber operation evade the bureau's new logging rules. As far as Pinchot was concerned, this was an example of "the old story of the individual trying to use his position to make profit for himself and his friends and thereby opposing everything that the forestry bureau might do."<sup>142</sup> It was the type of graft that reformers attacked in the United States and Pinchot and Ahern were committed to avoiding it in the Philippines.

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<sup>141</sup> Rodney J. Sullivan, *Exemplar of Americanism: The Philippine Career of Dean C. Worcester* (Ann Arbor, MI: Center for South and Southeast Asian Studies, 1991), 10-25.

<sup>142</sup> Pinchot Papers, LOC Box 640, Folder "XII," 5-7.



Even as Ahern deflected insinuations of corruption, he dedicated much of his time to advertising the Philippine forests as an arena for investment. Ahern reported that it was his duty to gain knowledge of the Philippine forest products and publish them for American investors. The bureau also began to develop new forest products and to seek out markets for materials that had gone unexploited. He was committed to helping American investors so long as a system of scientific forestry held the reins of government in the islands. In 1901, he published *Important Philippine Woods*, “a compilation of notes” on the islands’ most valuable timber species. He promised that investors seeking opportunity in the islands “will be facilitated by these notes and illustrations.” He recognized that because “the exploitation of these forests will be through American enterprise and capital, the need of a guide to a knowledge of the leading Philippine timber tree species seemed essential.”<sup>143</sup> And, he recalled his forestry missionary days in Montana reminding Americans about the benefits of scientific forestry. “The aim of the forester,” he preached, “is to improve the forest until a given area produces each year a maximum of wood of the most desirable species.”<sup>144</sup> Over the next several years, Ahern would go to great lengths to advertise the islands as an arena that although governed by reform-minded individuals would facilitate capitalist development.

### **Conclusion – “The finest piece of work”**

American imperialism had long fostered collaboration between capitalists and the state, but in the Philippines, Progressive forestry sought to demonstrate a better

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<sup>143</sup> Ahern, *Important Philippine Woods*, preface.

<sup>144</sup> *Report* (1900), 8.

relationship through broader state capacities. And, as historian Brian Balogh pointed out, Progressive forestry advocates did not rest on administrative capacity alone, but also they became the marketers and advertisers for capital investments.<sup>145</sup> This chapter has demonstrated that another piece of the puzzle was found in the Philippines: American imperialism aided Progressives by opening a space free from representative democracy and by incorporating the rhetorical power of the American civilizing mission. Progressive forestry advocates had gained a victory – not over capitalists, but instead over U.S.-based opponents to greater state administrative capacity.

Capitalists were forced to try out the new system and test its potential. For those interested in forest products, especially timber, this would mean working with the Bureau of Forestry. Of course, Ahern and the bureau could not have been happier to help American businesses establish themselves in the islands so long as they agreed to abide by regulations. And, the regulations were subject to influence as well. The Philippine Development and Lumber Company petitioned the bureau and the U.S. Department of Agriculture to make regulations more amenable to investment. In April 1901, the Company suggested new rules that would work within the bureau's regulations to spur investment. Specifically, it wanted the bureau to restrict areas of the forests to a single timber lease. Fearing trespass from indigenous people, the Company wanted to establish pseudo-enclosures – as close as it could come to private lands. It also requested long-term leases, perhaps twenty-years long, in order to guarantee that their initial investment would pay off. Such long-term leases also mimicked private holdings. The bureau agreed on both counts. The bureau retained the right to inspect the cutting area, cancel licenses,

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<sup>145</sup> Balogh, "Scientific Forestry," 216.

and evict the Company of it did not abide by the law, but the Company too got what it wanted by working with the forestry bureau.

The forestry reformers had achieved in the colony what they could not at home; they had the power to control lands and manage large amounts of forests. But, they had yet to make their forestry programs work. And, the environment where they found themselves was distant, pre-industrial, storm-prone, and tropical – what Ahern called “an impassable and deadly jungle.”<sup>146</sup> Indeed, what forestry officials discovered in the Philippines was that their biggest adversaries were not capitalists. Rather, the Philippine peoples and environment failed to conform to either state or capitalist control. The same would prove true in the United States. Although grazers and miners continued to fear federal intervention in the West, their biggest challenges turned out to be the arid West itself. In the early twentieth century, fire became the central management problem in western forests and helped to promote state-capital cooperation in the West. And, of course, market fluctuations continued to plague all western extractive industries.

Nevertheless, American forestry officials entered the Philippines with optimism. After Pinchot returned from his 1902 visit to the islands, he told a class of Yale forestry students,

“We have undertaken in the Islands a piece of work absolutely new on lines that no one else in the world has ever touched. The English have never approached it, nor the Dutch, nor any of the others who have gone into tropical colonization. None of them have attempted to handle a tropical people as we are going at it. The work that we are doing out there is in many ways the finest piece of work that I have come in contact with.

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<sup>146</sup> *Report* (1900), 8.

I have never been as proud of being an American as I was after finding out what our men are doing in the Islands.”<sup>147</sup>

The Philippines permitted forestry advocates to claim a multi-layered victory for U.S. imperialism, American exceptionalism, scientific forestry, and federal forest management. However, though Pinchot regarded the Philippines as an experiment that produced important results merely through its implementation, Ahern still had to make it work. In the following chapters, I explore how the Bureau of Forestry attempted to generate reform and exploitation together in a social and environmental context that Americans knew little about. By 1905, Pinchot had control of his own Forest Service in the United States and his commitment to oversight in the Philippines diminished. After the initial flurry of interest in forestry in the islands, most U.S. forestry advocates likewise focused on the United States. They considered a broad victory won after a number of bureaucratic successes placed much power in the hands of Pinchot and the U.S. Forest Service. But, at a time when forestry advocates worried over the future of forests on the public domain and lacked power to manage them, the Philippines played a prominent role in the expansion of U.S. forestry.

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<sup>147</sup> Pinchot, “Talks No. 10,” 10-11.

## Chapter 2

### Modernizing the Timber and Lumber Industries: Labor, Transportation, and Machines

#### Introduction

In 1898, American colonizers perceived the Philippine forests as an arena of multiple opportunities. For some, the forests appeared, like the forests of the American West, as a colonial periphery for resource extraction. Others who feared an impending U.S. timber famine thought that the Philippines would act as a reserve for American consumers.<sup>1</sup> Progressive imperialists believed that the establishment of scientific forestry would demonstrate the American commitment to “benevolence” on a world stage.<sup>2</sup> And, because scientific forestry remained unpopular in the United States, U.S. forestry advocates hoped that the implementation of a forestry bureau in the Philippines would help legitimize forestry at home. Moreover, the Philippines appeared to be an ideal place for such an imperial experiment. Though Congressional opposition stymied forestry advocacy in the United States, the colonial Philippines was absent the confines of U.S. representative democracy.<sup>3</sup> Furthermore, the Philippine forests were extensive, perhaps as much as sixty percent of the archipelago’s total land area, and only a small fraction, less than one million acres, was privately owned. Unlike in the United States where much of the nation’s forests lay in private hands, American forestry officials in the Philippines

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<sup>1</sup> “Philippine Timber Lands,” *Examiner* Lancaster, PA (December 4, 1900) FHS USFS Newspaper Clipping File, Box 29, Folder “Philippines Forests and Forestry II.”

<sup>2</sup> In reference to President William McKinley’s letter to General Otis, December 21, 1898 in which he declared, “...the mission of the United States is one of benevolent assimilation...”

<sup>3</sup> Greg Bankoff, “Breaking New Ground? Gifford Pinchot and the Birth of ‘Empire Forestry’ in the Philippines, 1900-1915,” *Environment and History* Vol 15, No. 3, (August, 2009), 370.

assumed that control of the vast forests would offer them a dominant role in a cooperative relationship with the forest products industries. Through this relationship, forestry officials believed that Americans could simultaneously exploit and protect the Philippines' forests.

Even before Admiral Dewey sailed into Manila Bay in 1898, American imperialists advertised the Philippines as an exciting opportunity for the United States. In the October 1897 issue of *The Cosmopolitan*, Dean Worcester (future member of the Philippine Commission and Philippine Secretary of the Interior) and Frank S. Bourns (future organizer of the Military Board of Health in Manila and manager of the Philippine Development and Lumber Company's Mindanao operation) published an article that lambasted the Spanish colonial administration and cast the Philippines in a familiar "tropical" light.<sup>4</sup> They criticized Spanish rule as insufficient, miserable, and oppressive, while also commenting on the archipelago's resources and heterogeneous ethnic makeup. Worcester and Bourns, a zoologist and a medical doctor respectively, reinforced Americans' beliefs about the tropics, what David Arnold has called "tropicality," by depicting the Philippines as a dichotomous place of abundant and impressive resources possessed by backward and "indolent" natives.<sup>5</sup> They wrote:

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<sup>4</sup> Dean C. Worcester and Frank S. Bourns, "Spanish Rule in the Philippines," *The Cosmopolitan: a Monthly Illustrated Magazine* APS Online, (October, 1897), Vol. 23, No. 6: 587-600; Paul A. Kramer, *The Blood of Government: Race, Empire, the United States & the Philippines* (Chapel Hill, NC: University of North Carolina Press, 2006), 180.

<sup>5</sup> David Arnold, *The Problem of Nature: Environment, Culture and European Expansion* (Oxford, [Eng.]: Blackwell, 1996). See also Kramer, 201; Glenn A. May, *Social Engineering in the Philippines: The Aims, Execution, and Impact of American Colonial Policy, 1900-1913* (Westport, CT: Greenwood Press, 1980, 12; The term "indolent," of course, has a long history of being applied to Filipino/as. Rizal's *La Indolencia de los Filipinos* takes the charge of indolence seriously, but unlike colonizers who believed that indolence was a natural characteristic of Filipino/as, Rizal believed that indolence was a negative consequence of Spanish colonization and Catholic friars' paternalism.

The natural resources of the islands are great. The soil is, as a rule, enormously productive. Magnificent forests afford an almost endless store of valuable timber, and gutta-percha is abundant in certain localities. Gold, copper, iron, and coal are to be had in paying quantities; but to offset all this, the natives are usually too lazy to work unless driven to it by hunger or want; the climate is in many localities very unhealthy, and the Spanish are bitterly hostile to every foreign enterprise.<sup>6</sup>

Worcester and Bourns reiterated many of the characteristics that Americans had come to expect from tropical locations: an unfortunate people inhabiting an underutilized, wealthy country – both the place and the people waiting to be developed.<sup>7</sup> And, like the American West before it, the Philippines appeared to be full of opportunities for the United States to expand its economic influence as well as its model of democratic government.

U.S. forestry officials took part in the overall American mission to modernize the Philippines by fostering the development of the timber and lumber industries and reforming how Filipino/as<sup>8</sup> used their forests.<sup>9</sup> First, Americans aspired to make the

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<sup>6</sup> Worcester and Bourns, 593.

<sup>7</sup> Teresa Marie Ventura, “American Empire, Agrarian Reform, and the Problem of Tropical Nature in the Philippines, 1898-1916” (dissertation, Columbia University, 2009), 16-61.

<sup>8</sup> Note on terminology: Filipino/as are only properly termed so after 1896, and even then not everyone in the islands would have self-identified as “Filipino” or “Filipina.” Because *Illustrados* from Luzon had demanded to be called “Filipinos” during the nationalist revolution against Spain, American authorities generally referred to Tagalog-speaking peoples of Luzon as “Filipinos,” and some of the evidence herein uses that distinction. Not until much later did U.S. authorities refer to all those in the Philippines as “Filipinos”. “Moros” (Moors) was the term that Spanish authorities gave to the Muslims of southern Mindanao and the Sulu archipelago, which Americans accepted. The word denotes followers of Islam, but was often used for many of the non-Christian peoples in the southern islands. Though, Americans also distinguished between Moros and other non-Christian peoples. As with other terms, great care and accuracy was not employed by the colonizers. Furthermore, I have tried to be specific with the gendered endings of the Spanish-derived names hence the “/a” at the ends of male-gendered terms. When I have left the male ending, it is because I am working from the perspective of the colonizers who, when writing about forest labor, often only referred to male subjects. But, I insert the “/a” to indicate that colonial policies did not only affect men.

<sup>9</sup> Modern, modernity, and modernization are problematic terms. According to Frederick Cooper, “The word *modernity* is now used to make so many different points that continued deployment of it may contribute more to confusion than to clarity.” I use the term as Americans would have perceived it during the early

Philippines a center of the Pacific lumber trade in the twentieth century both for the expansion of American capital and as a demonstration of American power. And second, forestry advocates wanted to prove that state forest management was not opposed to capital, but rather would work with capital to develop resources for the nation.<sup>10</sup> Gifford Pinchot and other forestry advocates knew that Americans had misused North American forests, and they were determined to show that they had learned from their mistakes. According to Pinchot, American forestry officials carried with them the “wisest, safest, and most satisfactory way of dealing with the forest,” and he helped his proxy in the islands, George Ahern, create an ideal of forestry modernity that they believed would allow them to accomplish their dual goals of development and reform.<sup>11</sup> However, the Americans’ idealized vision proved difficult to carry out.<sup>12</sup> In a number of ways, economic development and reform worked against one another, and Ahern, the Chief of the Bureau of Forestry from 1900-1914, found that he was forced to reevaluate what counted for modernity in the colonial Philippines.<sup>13</sup>

Though Americans maintained an ideal of forest management, Philippine peoples and environments shaped the implementation of policy and practices. According to John Foreman, an Englishman who wrote the most authoritative guide on the Philippines prior

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twentieth century. That is, I do not take their definition uncritically, but I use it as if to say, “what they would have counted as modern.” Their use of the word(s) generally meant an attention to scientific principles as a way to bring order to chaotic elements within society. See Cooper, *Colonialism in Questions: Theory, Knowledge, History* (Berkeley: University of California Press, 2005), 113.

<sup>10</sup> Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920* (Cambridge, MA: Harvard University Press, 1959).

<sup>11</sup> Gifford Pinchot, *A Primer of Forestry: Part I* (Washington: GPO, 1905), 34.

<sup>12</sup> Paul Hirt makes a similar comment in *A Conspiracy of Optimism*.

<sup>13</sup> For more on George P. Ahern see Lawrence Rakestraw, “George Patrick Ahern and the Philippine Bureau of Forestry, 1900-1914,” *Pacific Northwest Quarterly* (July, 1967), 142-150 and “Forestry Missionary: George Patrick Ahern, 1894-1899,” *Montana: the Magazine of Western History* (Autumn, 1959), 36-44.



to the American occupation, labor and transportation were the two great obstacles to the economic development of the islands' timber.<sup>14</sup> U.S. officials believed that by reforming Filipino/as' labor arrangements and introducing American logging methods and machinery into the islands they could overcome these obstacles. But the Philippines was not the American West. Unlike the federal government's attempts to "civilize" Native Americans, the Philippines did not experience settler colonialism; there were no model Anglo-American farmers to demonstrate American culture. And, persistent Euro-American fears of working in the tropics meant that the bureau relied upon local laborers to stimulate production. Also, moving U.S.-built machines across the Pacific was expensive and many American timber and lumber capitalists were uneasy about relocating capital to a colony where industrial timber production was untried and where some Filipino/as were yet in a state of revolution. As Ahern and the bureau worked to develop and reform the islands' timber and lumber industries, large capital-intensive operations balked and traditional methods dominated production for the first two decades of the twentieth century.

This chapter examines two of the Bureau of Forestry's most prominent goals during the first two decades of colonization – the stimulation of timber and lumber

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<sup>14</sup> John Foreman, *The Philippine Islands* 2<sup>nd</sup> ed. (New York: Scribner's and Sons, 1899). *The Philippine Islands* was a 600-plus page work first published in 1892 with a second edition in 1899 and a third in 1906. Foreman intended the work to be a "concise review of all that may interest the reader who seeks a general idea of this Colony[sic] in the past and in the present" (Preface to the First Edition, vi.). Foreman's influence on Americans was significant. Many of Foreman's observations and conclusions found their way into Ahern's official reports, the Philippine Commission's inquiries, and others' writings. For example, Dean Worcester drew his "historical facts" for his own comprehensive tome, *The Philippine Islands and Their People* (1899), from Foreman. See Dean C. Worcester, *The Philippine Islands and Their People* (New York: The Macmillan Company, 1899), xi and 75. For a fuller account of the American perception of the dual problems of labor and transportation see Gifford Pinchot, "Talks No. 9: Lecture on Forests and Forest Work in the Philippines," Delivered at Yale Forest School March 16, 1903, Pinchot Papers, LOC, Box 640, 18. See also Michael Adas, *Dominance by Design: Technical Imperatives and America's Civilizing Mission* (Cambridge, MA: The Belknap Press of Harvard University Press, 2006), 132.

production and environmental and social reform. It argues that the bureau's attempt to fulfill its complex agenda produced some successes and some failures. The bureau succeeded at increasing production. However, the bureau was largely unsuccessful with the social reforms that were equally important to the Progressive foresters. As Thomas Cox pointed out in *Mills and Markets*, stories of partial success and partial failure are an integral part of history and worthy of consideration.<sup>15</sup> The outcomes of these specific success and failures echoed through the twentieth century as the introduction of American-styled capitalism and market relations within U.S. imperialism turned out to be more often accomplished than social reform.

Furthermore, this chapter provides another look at a common narrative of U.S. imperialism and the effects of capitalist exploitation. The massive deforestation that befell the Philippines during the twentieth century has often been attributed to the effects of U.S. colonialism. However, colonialism unfolded in uneven and unpredictable ways. The structure of American environmental modernity included robust market relations built upon Progressive social relations. That is, virtuous labor relations and the use of the newest technologies were believed to go hand in hand with capitalism. However, this chapter shows that Filipino/as sought opportunities in the marketplace without accepting the full bill of U.S. social changes. Although Filipino/as were active participants in the shifts in market relations and the environmental changes that such shifts wrought, they often did not participate in the ways or for the reasons that Americans either foresaw or directed.

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<sup>15</sup> Thomas R. Cox, *Mills and Markets: A History of the Pacific Coast Lumber Industry to 1900* (Seattle: University of Washington Press, 1974), 296.

### Wage Work by Any Other Name

Philippine forest products had been part of regional and global trade systems for centuries. Timber production in the Philippines, like timber production in much of the colonized world, began with land cleared for cash crops, farms, and cattle. While poor migrants and entrepreneurs cleared the forests of central Luzon for cash crops, they also supplied wood to the shipwrights and builders who kept the Spanish galleons afloat.<sup>16</sup> On other islands too, especially in the Visayas, workers felled timber and planted rice, tobacco, sugar, hemp, and other cash crops. Not until the last half of the nineteenth century did first British and Spanish and later Chinese and *mestizo* timber and lumber dealers begin to develop a regional trade that focused specifically on Philippine woods.<sup>17</sup>

During the late Spanish colonial period, Spanish authorities fostered greater trade in Philippine timber. John Burzynski has recently argued that since the early 1860s, when the Spanish crown permitted foreign investment and trade in the Philippines, bureaucrats and business interests in Manila systematized the lumber trade for greater profit and a more reliable supply of woods. Beginning in the 1880s, the Spanish forestry bureau, *Inspección General de Montes* worked with merchants, shippers, and timber investors to create a more predictable forest products economy by establishing consistent

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<sup>16</sup> The lowland areas of central Luzon had been undergoing forest clearing for centuries to supply the galleon trade with wood, spread rice cultivation, and initiate cash cropping such as tobacco. See Marshall S. McLennan, "Changing Human Ecology on the Central Luzon Plain: Nueva Ecija, 1705-1939," in Alfred W. McCoy and Ed. C. de Jesus eds., *Philippine Social History: Global Trade and Local Transformations* (Honolulu: University Press of Hawaii, 1982), 57-90.

<sup>17</sup> John Burzynski, "The Timber Trade and the Growth of Manila, 1864-1881," *Philippine Studies* Vol. 50, No. 2 (2002), 171-172.

relationships with timber producers.<sup>18</sup> The main timber-producing areas, according to Burzynski, were “several isolated provinces” along Luzon’s southern coast and in the northern reaches of the Visayas. In these coastal areas, rich forests stood near the beaches, and logging gangs felled trees near the water’s edge where ships and rafts waited to float them to market. Only a few large timber operations existed during the late Spanish regime, and the increased interest in timber brought small operations into the orbit of urban timber buyers. More regular connections between merchants in Manila, Iloilo, and other port cities and the woodcutters along the coasts facilitated a predictable market for lumber and other forest products. But, even as the urban buyers worked to ensure a steady supply of products, timber production remained in local hands.

By the twentieth century, the economies and labor systems that produced timber were increasingly oriented to the market, but were not dominated by it. Even in the largest, most mechanized, and most successful timber producing areas, loggers, contractors, and middlemen contributed much to the structure of the trade. In the islands’ interiors, timber production remained in the hands of local loggers, forest dwellers, and a few foreign logging entrepreneurs. For example, the province of Tayabas (now Quezon), along Luzon’s southeast coast, became the most productive timber area in the Philippines and gave rise to indigenous middlemen operating between loggers and timber buyers during the late Spanish period. The presence of middlemen suggests a complex, sophisticated economy that was not a direct creation of foreign logging entrepreneurs.<sup>19</sup> Rather, they indicate that some indigenous peoples not only worked in the market

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<sup>18</sup> Burzynski, 168-192.

<sup>19</sup> “Testimony of Collins,” 82; Burzynski, 185.

economy, but also created “a supply market within a supply market.”<sup>20</sup> Local woodcutters throughout much of the rest of the archipelago, however, brought their timber directly to the timber buyers where the beach served as the market place. They developed a sophisticated economy by supplying Chinese, *mestizo*, European, and American traders with wood and other forest products. Outward from the coasts, local logging economies were tied to consumer markets in Manila, Iloilo, Cebu, and further foreign markets such as Hong Kong. By the time that the U.S. colonial administration arrived, many loggers in the most productive provinces, such as Tayabas and Mindoro, a large island off Luzon’s southern coast, had engaged the market for some time and had begun to fit timber work into local economies that also included shifting agriculture, fishing, hunting, and plantation work.<sup>21</sup> Workers also migrated to distant islands for forest work and integrated wage labor into temporary and itinerant family-based labor. Though market-oriented logging had been part of some areas of the Philippines for decades, local people exercised a great deal of autonomy, and market relations reflected indigenous peoples’ desires for an additional source of income insofar as it served their needs.<sup>22</sup>

Americans read Filipino/a approaches to timber work as indolence, and the colonizers perceived their most immediate problem was the need for good laborers to perform the difficult work of tropical logging. Americans believed that white workers’ bodies could not stand up to the heat and dangers of the tropics. Therefore, although the

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<sup>20</sup> Burzynski, 186.

<sup>21</sup> Burzynski, 184-186; Greg Bankoff, “Wants, Wages, and Workers: Laboring in the American Philippines, 1899-1908,” *Pacific Historical Review* Vol. 74, No. 1, (February, 2005); *Report of the Bureau of Forestry of the Philippine Islands* (Manila: GPO, 1902), 473; hereafter listed as *Report*.

<sup>22</sup> Anna Tsing has called such laborers “wild,” or “out of corporate or government control.” Tsing, “Contingent Commodities: Mobilizing Labor in and beyond Southeast Asian Forests,” in *Taking Southeast Asia to Market*, (Ithaca, NY: Cornell University Press), 30.

colonial administration viewed Filipino/a forest laborers as “scarce” and “poor and uncertain,” they required Filipino/as to perform manual labor. Along with other branches of the U.S. colonial administration, forestry officials maintained a dichotomous perception of Philippine labor.<sup>23</sup> As other scholars have noted, Americans represented Philippine labor as poor in order to justify colonialism and potentially good in order to lure investments.<sup>24</sup> Paul Kramer argued that U.S. officials most often invoked this dual representation in terms of Filipino/as’ “capacity” for manual and technical labor.<sup>25</sup> The oft repeated theory of Filipino/as’ capacity, which was not dissimilar from Anglo-Americans’ ideas about Native Americans, went that Philippine laborers were unreliable, but that with American leadership they had the potential to be modern laborers.<sup>26</sup> In addition, Americans’ racial theories complicated ideas about capacity. U.S. officials believed that some Philippine peoples were more able to perform forest work than others. In this sense, capacity was a malleable category while race was not.<sup>27</sup> And though U.S. administrators believed that they were introducing liberal reforms, they rearticulated racial hierarchies in Philippine society as the capacity to perform work.

And, along with notions of race and capacity, Americans worried about the labor arrangements that they believed dominated Philippine timber work. After Americans claimed control of the Philippines, the Philippine Commission assessed the condition of

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<sup>23</sup> George Ahern, *Report of the Philippine Commission* Appendix KK, (1900), 6.

<sup>24</sup> Bankoff, “Wants, Wages, and Workers,” 78-79; Kramer, 312-313.

<sup>25</sup> Kramer, 288; for more on “capacity” see Glenn Anthony May, *Social Engineering in the Philippines: The Aims, Execution, and Impact of American Colonial Policy, 1900-1913* (Westport, CT: Greenwood Press, 1980), 8-12.

<sup>26</sup> Kramer, 201; May, 12.

<sup>27</sup> Michael Adas says a similar thing about technology as part of the American Civilizing Mission. See Adas, *Dominance by Design*, 16.

the islands' forest industries and labor, as it did with other sectors of the Philippine economy.<sup>28</sup> As with much else about the Philippines under Spanish authority, Americans quickly labeled the logging industry a pre-modern vestige of incomplete and inattentive Spanish rule. Specifically, the Commission investigated two concerns that reflected the forestry agenda of social reform and capitalist expansion: labor arrangements between loggers and entrepreneurs and the possibilities and requirements for American logging companies to operate in the islands. What the Commission came to understand surprised no one: the islands' people needed advancement and the islands' timber needed to be placed into a capitalist system. It fell to Ahern and the Bureau of Forestry to introduce a American ideals of wage work and to make labor conditions legible and amenable to American capitalists. But even though U.S.-based reformers struggled to regularize labor relations in U.S. timber industries, Americans in the Philippines hoped to remake "our little brown brothers" into efficient wage-paid timber workers.

Americans' initial concerns over Philippine forest labor were found in the cash advance labor arrangements that John Foreman and others had observed and reported. According to Foreman, "The only way to successfully carry on a timber trade in this Colony," required that a timber capitalist "advance them[woodcutters] sums amounting in the total to thousands of dollars, a large per centage[sic] of which he can never hope to recover..."<sup>29</sup> Foreman and others identified this cash up-front labor arrangement as an unfortunate necessity of colonial commerce. Within the cash advance system, logging operators advanced loggers money in order to secure the delivery of logs on the coast.

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<sup>28</sup> Kramer, 313.

<sup>29</sup> Foreman, *The Philippine Islands*, 373.

But, for Americans, this system contained two fundamental problems with their reform and capitalist agendas. Ahern recognized and reported on these problems in 1902:

“[1]The native must be treated considerately, he should receive his full wage and not be kept in debt for years, receiving in lieu of pay a few yards of calico and a few pounds of rice at fancy prices. [2]We read much of the heavy losses sustained by advancing wages to native laborers.”<sup>30</sup>

First, the system was problematic for Progressives because it appeared antithetical to a liberal democratic society; it established a type of debt slavery, which Americans hoped to abolish through emancipatory colonialism.<sup>31</sup> Progressive Americans believed that debt slavery, as a means to secure employees, was leftover from an irrational, antiquated age. Ideally, workers would sell their labor in a free market for wages. Wages suggested a negotiated agreement between employer and employee that exemplified rational achievement. Second, the cash advances were a hardship on capitalists who looked for ways to systematize and minimize expenditures. In a world of increasingly scientific business principles, conservative investors and developmental capitalists wanted to know how much they would have to pay for labor before making their commitment to an enterprise. Cash advances undermined such practices because they retained the potential to change suddenly based upon laborers' shifting needs. In short, the system left too much power in the hands of laborers to decide not only how much they would be paid for services, but also, according to capitalist logic, whether or not an enterprise was viable. In

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<sup>30</sup> George P. Ahern, “Forestry,” *San Francisco Bulletin* (March, 1902), FHS USFS Newspaper Clipping File, Box 29, Folder “Philippines Forests and Forestry II.”

<sup>31</sup> These concerns over “debt slavery” were only part of a larger discourse over slavery and emancipation that lay at the heart of U.S. imperial and anti-imperial arguments. See Michal Salman, *The Embarrassment of Slavery: Controversies Over Bondage and Nationalism in the American Colonial Philippines* (Berkeley: University of California Press, 2001).



both of these ways, cash advances in the Philippines stood in the way of social progress and capitalist modes of production. U.S. reformers and policymakers therefore sought to reform labor arrangements and to help timber capitalists find more controllable, more predictable labor rates.

When the Philippine Commission investigated logging conditions and labor arrangements, they inferred much from the islands' more profitable agricultural sector. As S. Ravi Rajan noted about colonial forestry in the British Empire, most nineteenth century colonizers were interested primarily in their tropical colonies' agricultural potential and hence knew less about forests and forest economies.<sup>32</sup> Because sugar, abaca (hemp), coffee, and tobacco were the Philippines' important crops, the Commission tended to extrapolate the condition of all labor from the conditions that had been reported in those enterprises.<sup>33</sup> Agricultural plantation labor systems had evolved over the nineteenth century into various forms of labor including coerced and corvee labor, sharecropping, and contract systems that bore little resemblance to most logging labor agreements.<sup>34</sup> Americans' perceptions of Philippine agricultural labor arrangements tended to confirm their belief that local, domineering *caciques* controlled naturally subservient and lazy Philippine laborers making slavery and peonage rampant.<sup>35</sup> Americans found the forest products industries to be mostly stagnant, corrupted by poor labor practices, and desperately needing modernization. However, the Commission's

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<sup>32</sup> Rajan, *Modernizing Nature*, 9-10.

<sup>33</sup> For more on the labor conditions within cash-crop, hacienda, and plantation systems see Alfred W. McCoy, "A Queen Dies Slowly: The Rise and Decline of Iloilo City," in Alfred W. McCoy and Ed. C. de Jesus eds., *Philippine Social History: Global Trade and Local Transformations* (Honolulu: University Press of Hawaii, 1982), 297-358.

<sup>34</sup> Bankoff, "Wants, Wages, and Workers," 64; Kramer, 313-317.

<sup>35</sup> Benedict Anderson, "Cacique Democracy in the Philippines."

interviews in May of 1899 with Thomas Collins and Adolph von Bosch, two logging operators, tell a different story of forest labor, timber operations, and local forest economies in the islands.<sup>36</sup>

Both Collins and von Bosch worked as logging operators in important timber-producing areas during the late Spanish colonial period – Collins in Romblon and von Bosch on the southern coast of Camarines Sur. Though the Commission assumed that labor was as “uncertain” and unreliable as had been reported in sugar production, Collins and von Bosch stated that they had few problems securing and maintaining a reliable labor force to go into the forest, cut down trees, and haul the logs to the coast. The Commission’s primary concern with forest labor was, as the travel author Frank G. Carpenter had reported in his article “Resources of the Philippines,” that “debt slavery or peonage” was the only means by which “steady work can be secured.”<sup>37</sup> When the Commission asked Collins and von Bosch how logging operators retained labor, both men answered that cash advances were necessary, just as in cash-crop production, to hire laborers and to secure a reliable supply of timber. And, according to von Bosch the advances were “guaranteed by the men and their children. Their carabao and their property are mortgaged to me in consideration of these advances.”<sup>38</sup> Carpenter may have been correct that most arrangements were secured through cash advances and debt, but

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<sup>36</sup> *Report of the Philippine Commission*, (1900), 79-92; 108-116.

<sup>37</sup> Frank G. Carpenter, “Resources of the Philippines,” *Omaha Bee* February 14, 1900. FHS USFS Newspaper Clipping File Box 29, Folder “Philippines Forests and Forestry II.” Also see John Foreman, *The Philippine Islands* 2<sup>nd</sup> ed. (New York: Scribner’s and Sons, 1899), 373; and Clark, “Labor Conditions in the Philippines,” 724-725.

<sup>38</sup> “Testimony of Adolph von Bosch,” in *Report of the Philippine Commission* (1900), 112.

what Americans overlooked was how local people used and depended upon this system of employment for their local economies and social arrangements.

The forest economy at the edge of the forests where local laborers brought timber to the beach was an arrangement in which no one side controlled every aspect of the exchange. Logging operators accepted this arrangement because, according to von Bosch, “Europeans and Americans can’t cut timber themselves...owing to the climate and the heat.”<sup>39</sup> Because sugar operators complained that laborers took advances and then abandoned their work, the Philippine Commission assumed that the timber men had the same experience. Both responded that it happened, but that it was not a regular occurrence. Rather, they stated that the advances created a financial drain or “loss,” and that they always had to be prepared to offer additional advances to loggers and haulers. Von Bosch admitted that advances were “a great drawback,” and he claimed to have “about \$11,000 owing to me from the woodcutters on my books.”<sup>40</sup> In 1901, an agent of The Philippine Development and Lumber Company’s Camarines operation corroborated such extensive amounts of debt reporting “the 200 cutters and personeros[sic] employed by this company in Dalupaon and coastward stand in the books wit[h] an aggregate debt of \$21,000.”<sup>41</sup> Collins indicated how the system ensnared both employer and employee; he stated that he supplied “\$5 or \$10 to each man” but that he expected the advanced amount would never be repaid as workers “would keep in debt the whole time, because

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<sup>39</sup> Ibid., 115.

<sup>40</sup> Ibid., 111-112.

<sup>41</sup> “Timber Cutting in the Philippines,” (April 25, 1901), 2, FHS USFS Newspaper Clipping File Box 28, Folder “Philippines Islands Lumber.” “*Personeros*” here likely means labor contractors.

they would have to be supplied with dry goods, drugs, and things of that kind.”<sup>42</sup> This double-bind not only created a problem of reform for Americans who sought to abolish “debt slavery,” but also a hindrance to economic development as would-be investors were afraid to become caught up in the cash advance system.

What Americans saw as advances that created debt, woodcutters may have viewed as contract fees that purchased both allegiance and timber. While Collins and others assumed that supplying goods created dependency on the part of local laborers, the laborers might also take advantage of the advances and access to goods in order to conduct other business arrangements out of the operator’s view. Von Bosch acknowledged as much saying

“He [a worker] brings in timber, say five or six logs, which are worth \$50, and he will go on until he is in need of rice or in want of some cigars or any manufactured goods, or it might happen that a child dies, or they want to marry, or a child is born and has to be baptized, and that means another advance. Of course the Indian never has a cent in his house.”<sup>43</sup>

And yet logging operators continued using the cash advance system to employ loggers finding that it brought them the logs they needed and because they had few alternatives. For the loggers too, the system was a boon and a snare. Though loggers found the arrangement useful enough that they followed operators to different parts of the provinces, they also lost time to grow or collect their own foods and other goods because they worked for timber advances or contract fees instead. Von Bosch testified that loggers’ entire families became part of the coastal forest economy. Women wove baskets

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<sup>42</sup> “Testimony of Thomas Collins,” 83.

<sup>43</sup> “Testimony of Adolph von Bosch,” 112.

and mats that they sold to von Bosch who, in turn, sold them elsewhere. Children at the age of ten helped their parents with various tasks associated with logging and hauling logs to the coast. Whole families put time and labor into the logging economy instead of growing and gathering foods and other necessities. They required advances in foodstuffs such as rice and other basic necessities that they may have otherwise prepared themselves.<sup>44</sup> While the market created ongoing changes to Philippine forest economies, these were changes that indigenous people sought out and participated in.

It is likely that local forest laborers had engaged this kind of arrangement for decades, perhaps longer, and had helped fashion a system that was not wholly disadvantageous to them. From their perspective, the system was tilted in their favor, as the up-front cash advances spurred investments, relationships, and purchasing beyond the power of the colonizers to either witness or understand. Certainly it is true that laborers who defaulted on their debts sometimes lost their property or were sent to local jails or to Bilibid Prison in Manila.<sup>45</sup> And, increasing visits from timber buyers indicated that greater market forces helped to reorient forest workers toward market production. However, to conclude that the eventual dependence, poverty, or danger into which peoples' lives were cast were the only significant results of historical developments, is to miss the ways that the workers made choices that shaped the social, economic, and political structures that governed their lives. Moreover, Americans at the time largely misread the labor relations through a lens of racial ideologies and tropicity. They understood that capitalists took advantage of forest workers, and that forest workers were

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<sup>44</sup> Bankoff, "Wants, Wages, and Workers," 83-84.

<sup>45</sup> Kramer, 316.

uneducated about good forest practices and damaged the forests. In short, without understanding logging arrangements, Americans concluded that Philippine timber production was antiquated, unfair, and inefficient requiring greater oversight and regulation.

The U.S. colonial officials claimed that a more civilized and more efficient system existed when woodcutters labored for standardized wages. Americans believed that standardized labor arrangements in the timber industry would inject responsibility into forest workers' lives and attract foreign investment by offering labor at regular and predictable prices. Americans imagined a system in which laborers would be paid by the day, week, or month based upon the fulfillment of the operators' demands. This vision reflected the forest wage labor system in much, but not all, of the United States where, according to Ralph C. Bryant, a Yale forestry professor, U.S. logging labor arrangements yet fell short of the modern ideal.<sup>46</sup> First, U.S. wages for woodcutting fluctuated according to region, custom, and the loggers' race.<sup>47</sup> Second, although U.S. forestry officials never expected complete uniformity across the vast United States, these regionally variable labor arrangements remained a thorn in the sides of U.S. forestry officials. "The chief methods of employing labor are," Bryant wrote about the United States in 1912, "(1) by the day or month; (2) by contract." The former was "desirable where labor is efficient," while the latter was tolerated where "labor is inefficient and

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<sup>46</sup> Ralph Clement Bryant graduated from the New York State College of Forestry at Cornell University in 1900. Ahern hired him among the first corps of U.S. forestry officials in the Philippines. He served in the islands until 1905 when he returned to the United States and worked briefly for the USFS. He then became a professor of forestry at Yale, a position he held until 1939.

<sup>47</sup> The best recent study is William P. Jones, *The Tribe of Black Ulysses: African American Timber Workers in the Jim Crow South* (Champaign, IL: University of Illinois Press, 2005).

liability laws are unfavorable to the employer.”<sup>48</sup> For forestry officials in the United States who worked closely with large timber companies, empowered woodcutters and new workmen’s compensation laws restricted the most efficient timber business. Bryant was also forced to admit that in the United States, “When labor is scarce special inducements such as payment on demand instead of at some fixed date are sometimes offered to secure workmen.”<sup>49</sup> In other words, cash advances in the United States were also sometimes necessary. Even if a fully rationalized labor system did not exist domestically, colonial forestry officials in the Philippines hoped to standardize wages, increase efficiency, and set an example for U.S. timber-labor arrangements.

Furthermore, standardization cleaved away at workers’ ability to bargain for better wages. Indeed, the Philippine cash advance system and workers’ sporadic participation in logging economies appears less restrictive than wage work in the United States. According to the economic analyst Victor S. Clark, who studied foreign labor conditions for the U.S. government, modernization through wage labor practices was necessary for Filipino/as whether they liked it or not. Clark argued, “the most eminent economic problem” was

“how to effect a speedy and ready transition from a social state where many workers are in quasi-servitude, to one where they are industrially independent. The motive for such a change is not primarily the happiness of the working people, for they are possibly as contented and possess as satisfactory an adjustment of material resources to their physical and intellectual demands as they would in a more advanced state of society. But, the change is necessary for the development of the natural resources of the country with native labor, and it is a condition precedent to the

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<sup>48</sup> Ralph C. Bryant, *Logging: The Principle and General Methods of Operation in the United States* (New York: John Wiley & Sons, 1913), 48-49.

<sup>49</sup> *Ibid.*, 50.

successful operation of the form of government that we design to set up in the islands.”<sup>50</sup>

For Clark, reform was far less important except insofar as it established workers’ submission to a new form of labor. Standardization in the Philippines would help to shift power into timber capitalists’ hands, if such standards could be instituted and enforced. The “cash advances,” appearing as undemocratic aspects of Philippine society, provided American policymakers the justification for reform. At the same time, the attempt to institute progressive social reforms along with the exigencies of colonial economic development meant a reduction in workers’ control over labor rates; they should submit to capitalists’ demands. Bryant’s assertion that labor laws and labor organization acted against capital suggested that labor should not limit or challenge capitalists’ enterprises, but Progressive technocrats and experts should act to regulate industrial activities. Ahern and others believed that in the colonial laboratory of the Philippines, variables that plagued U.S. timber markets could be avoided through good management, standardization, and regulation. They believed that labor reform would not only “civilize” Filipino/a workers, but also would help to strengthen the capitalist domination of the Philippines’ economy.

In the same way that U.S. social reformers believed that American Indians would move through gradual stages of civilization by living and working alongside white farmers, Americans argued that Filipinos would experience the same incremental

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<sup>50</sup> Victor S. Clark, “Labor Conditions in the Philippines,” in *Bulletin of the Bureau of Labor* (Washington: GPO, 1905), 724-725.



transformation when they worked for wages as part of industrial labor arrangements.<sup>51</sup>

Ahern's comments, which should be read as an advertisement to lumber operators on the West coast of the United States, were published in the *San Francisco Bulletin* in March, 1902 and represent such a view:

“Much has been said against the native as a laborer, but as a matter of fact the Filipino and Moro have worked well, and are working well. In Mindanao, where an American officer has a number of Moros employed, the first wages were paid daily, then by the week. The astonishment of these natives at receiving real money was amusing to the officer; in a very few weeks many of these workmen, having satisfied their first needs, requested permission and were allowed to deposit their pay with the officer. Such a spirit has been encouraged; it means much to such a community. These people no longer fear the tax gatherer, they can accumulate, become property holders, and then, staunch friends of law and order.”<sup>52</sup>

Many of the elements of ideal modernity and civilization are present in Ahern's description of the market's influence on Philippine social development. First, workers learn to accept wages by the day and then the week instead of seeking cash advances. Then, because of the market's apparently munificent pay rates and civilizing influence, workers are paid enough that they begin saving. They also place trust in their employer who will bank the money for them. Moreover, the *cedula* or “head tax,” began under the Spanish, played a prominent role in Americans' understanding of rural Filipino/as' behavior. U.S. officials imagined that workers abandoned agricultural fields because they had squandered their cash advances and could not pay the tax collector. But, in Ahern's

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<sup>51</sup> Bankoff, “Wants, Wages, and Workers,” 78.

<sup>52</sup> George P. Ahern, “Forestry,” *San Francisco Bulletin* (March, 1902), FHS USFS Newspaper Clipping File, Box 29, Folder “Philippines Forests and Forestry II.” For another example of the civilizing influence of the market on Filipinos see Wright, *American across the Seas*, 18-22.

idealized scenario, this tax no longer worries such workers who would have the funds to pay. Filipino/as would begin to accumulate wealth and settle down within a community of like-minded individuals instead of squandering wealth and engaging in shifting agriculture or migratory labor arrangements. Through interactions with the market, Ahern and the American colonial officials believed that at least “Filipinos and Moros,” would undergo an ideal social transformation. Ahern painted such an ideal picture in order to attract investors, but nevertheless revealed the Progressive dream of U.S. imperialism.

In addition to imagining how standard wages would shape Filipino/as’ socialization, Ahern advertised standard wages in order to solve the corollary problem of attracting investors to the Philippines’ forests. He compiled and advertised a wage schedule for forest laborers in 1902 that was meant to inform American timber investors that labor could be secured at reasonable and reliable rates. He reported:

“The price paid for labor in the woods varies according to the local demand; but the following average prices are believed to be approximately correct: Choppers and hewers, 70 cents per day, exclusive of board; trailbuilders, skidders, and drivers 50 cents per day, exclusive of board; hire of carabao, \$1 to \$1.50 per day.”<sup>53</sup>

The bureau’s wage labor schedules were attempts to place Philippine labor in terms that American entrepreneurs would understand and they had the effect of making the American effort at modernization appear more complete than it actually was. But, Ahern was forced to admit that labor was not as standardized as he wanted it to be.<sup>54</sup> Ahern suggested that this schedule, which was drawn from the Philippine Lumber and

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<sup>53</sup> *Report*, (1902), 465.

<sup>54</sup> *Report*, (1900), 6.

Development Company's Camarines operation, represented a correct estimation of archipelago-wide wages. But, Ahern conceded that labor rates remained as regionally variable as in the United States, and that he was unsure of just what the rates were in many of the islands. Indeed, the bureau's foresters were only beginning to travel through the provinces and collect information about local customs, the presence of potential wage laborers, and logging possibilities.

Wage schedules for logging suggested an ideal, modern work force, but the facts on the ground were otherwise. As much as Ahern would have liked to publish standard wage schedules, the variability of the Philippine labor system was more similar to logging labor in the United States than to the modern ideal. Bryant wrote that the U.S. timber business depended "in a large measure on the character, supply and efficiency of labor," which were determined by the climate and the "economic conditions of the country."<sup>55</sup> Much the same could be said of the Philippines. Bryant trained his students at Yale that regardless of the efforts at standardization, labor remained a variable with which forestry officials had to cope. Such variations, both in the United States and in the Philippines, revealed forestry officials and capitalists' inabilities to realize a certain type of forest modernity. It also suggested that Americans were trying to extend their notions of labor, especially in regard to race and capitalism, to the Philippines. Timber capitalists and state officials in the United States denigrated woodcutters along similar lines as they did in the colony. Bryant instructed that workers with too much control over labor prices were "unfavorable" and some ethnicities, such as "Mexicans," were particularly

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<sup>55</sup> Bryant, *Logging*, 47.

“clannish.”<sup>56</sup> Therefore, while the modern ideal of standard wage rates remained an ideal, what was modern about the bureau’s policies and expectations was its attempts to place Philippine workers within dominant cultural norms of race and their faith in capitalist modes of production.

In addition to the problems of cash advances and debt, Americans perceived a problem of labor scarcity in the islands. In many places in the archipelago where the bureau hoped to foster a new or more vital timber business, the problem of labor scarcity plagued Americans’ assessments. The problem had its basis in reality; death and disruption from war had reduced the Filipino work force in some regions.<sup>57</sup> But, Greg Bankoff has also argued that this problem was “more perceptual than real.”<sup>58</sup> In some cases, workers appeared to be in short supply because of Americans’ racialized notions of who counted as good workers. In comparison to Chinese laborers for example, Filipinos initially seemed less capable laborers and less enthusiastic capitalists. In other cases, Americans’ perceived labor scarcity when local laborers, would-be woodcutters, chose to engage other types of local employment. Local forest dwellers worked in the timber industry according to their own needs and schedules – much like in the United States. What Americans read as scarcity might have been forest workers’ ability to choose when and how much they engaged market timber production. For maintaining such choices, Filipino/as were labeled “lazy” and without the “capacity” for true capitalist enterprise.

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<sup>56</sup> Ibid., 48-51.

<sup>57</sup> Bankoff, “Wants, Wages, and Workers,” 67.

<sup>58</sup> Ibid.

During the early days of colonization, some American capitalists who noted a scarcity of labor turned to an old remedy to circumvent Filipinos' supposed "indolence" and inherent lack of capitalist instincts – the importation of Chinese workers. From their experiences in the American West and elsewhere, some U.S. capitalists believed that Chinese laborers were racially disposed to work hard for low wages and they suggested the importation of Chinese labor into the Philippines to supplant the "lazy native" workers.<sup>59</sup> Cornell Professor of Political Economy and Politics Jeremiah Jenks argued that Chinese workers should not be forbidden from the Philippines as they were in the United States because they underbid white U.S. workers. Rather, they *should* be imported into the islands *in spite of* the fact that they would "underbid the Filipino." Importing Chinese laborers would aid Filipinos because, in a fit of arbitrary categorization Jenks explained, "While the manners of the people, their habits of cleanliness and of decency, are better than those of the Chinese, their food and probably their morals are no better, and in diligence, thrift, business capacity and business morality they are distinctly inferior."<sup>60</sup> Believing that white American laborers could not be imported to tropical Asia, Jenks surmised that Chinese labor would serve as a fitting substitute because they worked hard *and* had good business sense; they were presumed to be more natural capitalists. They would fill the gap left by the absence of Anglo-American settlers by instructing Filipinos in good work habits. Jenks's racial logic conflated economic development and the civilizing mission. Chinese workers would provide cheap labor and

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<sup>59</sup> Jeremiah W. Jenks "The Labor Problem in the Philippines," *The Independent* (November 6, 1902), APS Online, 54, 2629.

<sup>60</sup> Jenks, 2814, 2627.

they would educate Filipinos in what was becoming the most important area of modern life: market relations.

In opposition to Jenks and like-minded capitalists, Progressive reformers argued that the United States should not condone the importation of cheaper foreign labor. For example, although the managers of the Philippine Lumber and Development Company agreed that the labor problem could be overcome “if it were possible to import, as is done in Borneo, Chinese labor,” they recognized that “besides the immense cost it would involve, the territorial difficulties would prove almost insurmountable obstacles.”<sup>61</sup> That is, the importation of Chinese laborers into the Philippines would challenge a basic notion of Progressive-era labor reform: foreign workers underbidding domestic laborers served to undermine democracy.<sup>62</sup> In this way, Progressive ideology embraced both racist American attitudes against the Chinese *and* reformers’ beliefs that a core function of the U.S. mission in the Philippines was to produce modern Filipino/a laborers. On these terms, American Federation of Labor (AFL) Commissioner Edward Rosenberg supported the notion that Filipino/as were on the cusp of modernity and should be empowered. Rosenberg stated that Filipinos were racially superior to the Chinese because of their “progressive” tendencies to demand better wages and better treatment in the workplace.<sup>63</sup> He noted Filipino/as’ recent revolt against the Spanish and their embrace of trade unions as confirmation of his racial theory. Filipino/as’ “reluctance to work,” which was “continually harped upon by many employers,” was natural given Filipino/as’ racial

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<sup>61</sup> “Timber Cutting in the Philippines,” 1.

<sup>62</sup> For more on Chinese migrant labor and “coolies” see Moon-Ho Jung, *Coolies and Cane: Race, Labor and Sugar in the Age of Emancipation* (Baltimore: The Johns Hopkins Press, 2006), 5-19.

<sup>63</sup> Edward Rosenberg, “Filipinos as Workmen: Data and Conclusions on the Labor Situation and General Conditions in the Philippine Islands,” *American Federationist*, 10 (1903), 1021.

“capacity” for improvement and their initiative to hold out for better pay and conditions.<sup>64</sup> “Progressive” tendencies and “natural reluctance to work” were qualities that Americans had imagined as part of Filipino/as’ racial composition, but nonetheless elevated Filipino/as above Chinese as part of the Progressive mission to end racial underbidding within America’s domains. Chinese laborers had been the predominant workforce in many industries such as dock work and road construction, but gradually gave way to Filipino/a workers after the American take over.<sup>65</sup> In forest labor, Chinese migrants never satisfied the bureau as a labor source. In the few places where logging operators tried to hire Chinese woodcutters, they complained that the Chinese would not go far into the forest because they were afraid of locals and *ladrones*(bandits).<sup>66</sup> Rather, the bureau sought out local forest laborers. Successful logging operations such as those in Tayabas, Mindoro, and Masbate had secured enough woodcutters to make impressive inroads into the forests, and Ahern believed that laborers could be attained locally by offering fair wages.<sup>67</sup>

In timber-rich locales, labor scarcity challenged Americans’ beliefs that modernity and civilization would naturally entice locals into wage work. In provinces where Americans planned to develop a timber industry, some local people remained ambivalent or disinterested in timber work for wages. Often the bureau found that local people only cared to participate in timber operations when they were not already bound to

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<sup>64</sup> Ibid.

<sup>65</sup> Bankoff, “Wants, Wages, and Workers,” 70-71.

<sup>66</sup> Foreman,

<sup>67</sup> Burzynski, 185-187.

other forms of labor or when it suited them to do so.<sup>68</sup> When Forester Bryant investigated the Gimogon River region in Negros Occidental in 1903 he noted the lack of available labor among two sets of people – the natives and the Negritos. The natives to which he referred were Hispanicized Filipino/as who lived in the barrio Sanghai, while the Negritos lived in the forests of the nearby hills. The “natives” were “dependents of the haciendas and hence can not be relied upon to work at all steadily for any outside parties,” while the Negritos largely hunted and practiced shifting agriculture.<sup>69</sup> Americans dismissed Negritos anyway believing them to be the “most degraded race,” and incapable of sophisticated market relations, as Dean Worcester, the eminent ethnographer and Philippine Secretary of the Interior, had reported.<sup>70</sup> The fact that no labor could be secured in a forest that Bryant saw as perfect for a logging concession left him to conclude that “Any lumber operations carried on here to any extent would necessitate the importation of laborers from outside points.”<sup>71</sup> Even though transient labor in the United States had fueled the U.S. lumber markets for decades, Americans’ ideal modernity prohibited them from imagining migrant labor as the solution to the scarcity problem. But, the need to develop timber-rich areas forced the forestry officials to revise their sense of what modernity might mean in the Philippines.

For the U.S. colonial administration, migrant labor became essential for supplying laborers to logging operations, especially in places where large-scale logging had not previously existed. In Bataan in 1902, Bryant inspected river valleys for the possibility of

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<sup>68</sup> Bankoff, “Wants, Wages, and Workers,” 67.

<sup>69</sup> *Report*, (1903), 293; *Report* (1904), 43.

<sup>70</sup> Worcester, “Spain and the Philippine Islands,” 5.

<sup>71</sup> *Report*, (1903), 292.



large-scale logging operations. He found that local logging operators “were unable to work the natives of this province and were forced to import men from Pampanga and one of the southern provinces in order to carry on the work successfully.”<sup>72</sup> While on his 1902 visit of the islands, Gifford Pinchot noted that most of the timber workers in Mindanao were “principally Filipino, brought from other islands.”<sup>73</sup> And, in 1916, laborers in the Agusan Valley in eastern Mindanao traveled from Cebu, Bohol, and Leyte for timber work.<sup>74</sup> Though migratory labor was available, especially in urban areas where the landless poor searched for employment, it did not fit U.S. reformers’ ideal of wage labor. Wages were supposed to “civilize” and settle Filipino/as in order to prepare them for citizenship. But, many young and old men needed work as urban and agricultural sectors underwent changes due to war and industrial modifications. Centrifugal sugar mills and mechanized factories required fewer laborers, tenants lost out because of farm and cash-crop consolidation, poor landholders lost farms due to taxes and the depredations of war, and lower prices in some agricultural sectors set many in search of work. The bureau therefore relied more and more on wage-paid, migratory laborers to serve foreign companies.<sup>75</sup> As the Bureau of Forestry attempted to modernize labor and reform Philippine social life, the need to develop the islands’ natural resources overrode the duty to reform society, and migrant laborers became a key part of the bureau’s answer to modernization.

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<sup>72</sup> *Report*, (1902), 499-500.

<sup>73</sup> Pinchot Papers LOC Box 640, Folder “Philippine Island Trip,” (Nov 8, 1902), 23. “Filipino” here most likely means Tagalog-speakers from Luzon.

<sup>74</sup> *Report*, (1916), 59.

<sup>75</sup> McCoy describes the inter-island movement of laborers in “A Queen Dies Slowly,” 323; Burzynski, 188.

By 1910, the Americans' ideal of a modern Filipino work force in the timber and lumber industries had been redefined according to the social contexts in the islands. Migrant workers moved between islands, sometimes great distances, to work for wages in medium and large timber and lumber operations. And, Americans changed their tune. In 1911, Ahern stated "The labor question is not a serious one in the lumber industry."<sup>76</sup> And, in 1925, John Fowler of the American Trade Commission reported that so many laborers were available and had applied for work in timber industries that releasing some men from work to return home was not a burden on timber companies.<sup>77</sup> U.S. officials now claimed that the labor issues were resolved.<sup>78</sup> Americans' sense of modernity had been revised and U.S. officials now maintained that migratory labor would serve the colony and foreign investors well. Of course, the need for American tutelage remained. Ahern yet counseled "With a good American foreman better results can be obtained, dollar for dollar of outlay, from Filipino than from American labor in the woods and mill."<sup>79</sup> Some observers and logging operators began to claim that Filipino labor was equal to white laborers. As one reporter stated, "the Filipino, with a little patience, forbearance, and tact, can be made quite as efficient a workman as his white brother, or even the much vaunted Chinaman."<sup>80</sup> Without settlers to colonize the islands, Americans were forced to adapt to Filipino customs of migratory labor at the same time that Philippine labor was changing to fit American methods and demands.

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<sup>76</sup> Ahern "Forest Wealth of the Philippines," *Cablenews American* (Manila Aug 28, 1911), FHS USFS Newspaper Clipping File Box 29, Folder "Philippines Forests and Forestry."

<sup>77</sup> John A. Fowler, *Lumber Industry of the Philippine Islands* (Washington D.C.: GPO, 1925), 8.

<sup>78</sup> "Ten Years in the Philippines," *National Geographic Magazine* (1908), 148.

<sup>79</sup> Ahern "Forest Wealth of the Philippines."

<sup>80</sup> "Wealth in its Forests," *New York Tribune* (November 18, 1901), FHS USFS Newspaper Clipping File Box 29, Folder "Philippines Forests and Forestry."

## Methods and Machines

In addition to labor arrangements, the Philippine Bureau of Forestry sought to modernize timber harvesting and lumber production in the islands. Specifically, this meant reforming the ways that Filipino/as selected and felled trees, transported logs, and milled timber into lumber. As with labor arrangements, the modernization of logging and sawing methods addressed Americans' concerns for economic development as well as social and environmental reform. Forestry officials believed that selective logging and heavy machines would reduce waste and allow loggers to bring more timber to market. But, at the same time, modernization and mechanization were attempts by the bureau to remove some of the workers' control over the means of production and increase the reach of expertise and capital into timber work. The bureau believed that modernization would create more reliable prices and supply thus fostering stable timber and lumber markets. And, of course, the American colonial officials also hoped that the Philippines would serve as a model of good state-capital cooperation in which experts and entrepreneurs exploited the woods in the most rational and systematic ways. But, the tensions created by the bureau's agenda of resource development and social engineering led the bureau to focus more on the former than on the latter.

Americans first had to address what they saw as wasteful and antiquated production methods. When scientific foresters observed both U.S. and Philippine forest industries at the turn of the century, they regularly criticized various logging methods as wasteful, and they committed to helping logging operators reduce waste and exploit the

forests more efficiently. In the history of state forestry, experts' distrust of local peoples' methods has become commonplace, and U.S. forestry officials in the Philippines believed that Filipino/as' pre-modern logging methods both damaged the forests and permitted only limited timber production. But, in contrast to the way that Americans tended to racialize Filipino/as' labor arrangements and "capacity" for work, when it came to the means of production, Americans preferred the discourse of modernization. That is, rather than arguing that Filipino/as were racially unfit for modern timber production methods, they claimed that only experts knew how to use the forests in a rational, efficient way.

Capitalist development and environmental reform took the shape of scientific forestry's methods and machines. Specifically, modern methods began with the proper selection of trees for felling – a job that scientific foresters believed that they alone were equipped to perform. In addition, Americans sought to change how loggers felled trees and how haulers delivered logs to sawyers. Officials claimed that Filipino/a loggers and haulers' methods threatened the silvicultural foundations of the forests. In addition, forestry officials promoted the importation of machines to modernize the two most work-intensive elements in timber and lumber production: the transportation of felled logs out of the forests and processing logs at the mill. And, as with labor arrangements, U.S. officials imagined that, once introduced, American methods and machinery would quickly revolutionize the Philippine forest economies. In the United States too, forestry officials argued for conservative practices and industrial production as the modern, efficient way to exploit timber. The private enterprises within the Pacific Northwest's Douglas fir forests became a model of good logging because large capitalists worked *with* forestry officials, and machine technology replaced animal and human power in some of

the industry's most labor-intensive tasks.<sup>81</sup> The bureau officials hoped that, like ideal modern labor arrangements, conservative logging methods and industrial machinery would secure more predictable relationships between capital and labor, labor and the environment, and labor and the bureau's forestry experts.

When American officials arrived in the Philippines, they observed logging operations that had changed little since the mid-nineteenth century and confirmed their belief that methods were antiquated, wasteful and damaging. During his 1902 trip to the islands, Gifford Pinchot claimed "Lumbering in the islands has not changed in character since the Spanish administration and is still destructive to the forest."<sup>82</sup> Logging gangs typically made agreements with timber buyers on the coasts for certain desirable species. Then, loggers went to the woods and selected the appropriate trees.<sup>83</sup> They felled the trees with axes and removed the bark. Then, they squared the huge logs on the ground with bolo knives. Squaring the logs made the slab easier for transport, and also meant that the loggers only expended effort removing merchantable wood from the forest. Then the loggers rounded the front end of the slab to facilitate dragging the log to the coast. Sometimes, experienced logging crews carried a wooden sled for this purpose.<sup>84</sup> If the loggers possessed one or more carabao, a subspecies of water buffalo and the only beast

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<sup>81</sup> See Richard A. Rajala, *Clearcutting the Pacific Rain Forest: Production, Science, and Regulation* (Vancouver: University of British Columbia, 1998).

<sup>82</sup> Pinchot Papers LOC "Recommendations on Policy, Organization, and Procedure, for the Bureau of Forestry for the Philippine Islands," 2; Burzynski, 181.

<sup>83</sup> Collins contradicts his own testimony twice about whether or not he paid his laborers according to the type of wood that they cut. Regardless of this confusion however, he makes it clear that the loggers chose to cut more valuable woods over less valuable species. "Testimony of Thomas Collins," 82.

<sup>84</sup> This method was not uncommon in the United States during the same period. It kept the log "from boring in the ground" when dragged, according to Carl Schenck who labeled this type of sled a "lizard" when used in U.S. logging operations. See Carl Schenck, *Forest Utilization* (Biltmore, N.C.: Biltmore Forest School, 1904), 19; and Bryant, *Logging*, 105.

of burden in the islands, then the loggers “generally use blocks and tackles to get a sufficient force of carabaos on it. An average log will take eight to ten carabaos.”<sup>85</sup> Next, the team hauled the logs to the beach where the log was either taken directly to a seaside sawyer, or, more often, the cargo was loaded onto bamboo rafts. If the wood floated, it was simply tugged to market.<sup>86</sup> Even though a number of these steps in the logging and transportation of timber resembled methods commonly in use in the United States, every aspect of this work appeared “extremely crude and unsatisfactory” to Americans.<sup>87</sup>

The bureau’s foresters set out to reform three specific sectors of timber production: identification and selection of species, felling, and transportation of logs. From their earliest days in the islands, Ahern and the forestry staff believed that, with the exception of those forests that were to be converted into agricultural lands, and could therefore be clearcut, “A rational forest policy will necessitate the felling of all trees by selection.”<sup>88</sup> Unlike in the United States where forestry officials recommended that forests in some regions, notably the Pacific Northwest’s Douglas fir forests, should be clearcut for the best silvicultural effect, Philippine Bureau officials believed that the market conditions and the reproductive character of the Philippine forests demanded selective logging. Specifically, it was what Gifford Pinchot called “pure selection”

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<sup>85</sup> “Testimony of Thomas Collins,” 82. There were also horses in the islands. Some observers also noted the occasional use of horses in logging work, but they numbered even fewer and were less effective than carabao. See Hamilton Wright, “America across the Seas,” 12, 17.

<sup>86</sup> The method of logging and transportation described here is found in many sources with little variation. See Gifford Pinchot, “Talks No. 9: Lecture on Forests and Forest Work in the Philippines,” Gifford Pinchot Papers LOC Box 640, 20-21.

<sup>87</sup> Graves, “Confidential Report,” 12. For contemporary logging methods see Ralph C. Bryant, *Logging: The Principles and General Methods of Operation in the United States* (New York: John Wiley & Sons, 1913); Richard Rajala, *Clearcutting*, 10-14.

<sup>88</sup> *Report* (1901), 10. Dietrich Brandis was one of the earliest colonial foresters to discuss logging by selection. Conversion of forests into agricultural lands is covered in Chapter 4.

because he observed that within Philippine forests the trees were of various ages, grew close together, and required an uninterrupted canopy to reproduce.<sup>89</sup>

Indigenous loggers had practiced a type of selective logging – high-grading, or the removal of only the best, most valuable trees – since the beginning of market-oriented logging, and this became a target for American officials. When American authorities arrived in the Philippines they learned the marketable and reproductive characteristics of the woods from local people and a few remaining Spanish authorities. However, even as the U.S. forestry staff relied on local peoples' knowledge, they also maintained that Filipino/as did not know how to log selectively. Philippine loggers knew the desirable and marketable trees well enough that Foreman, who wrote the authoritative tome *The Philippine Islands* (1899), claimed, “natives employed in the felling of timber often become very expert in the selection and appreciation of the standing trunks.”<sup>90</sup> Indeed, few timber buyers accompanied logging expeditions inland, but rather left the selection of trees to the woodcutters. Adolph von Bosch told the Philippine Commission that the loggers he employed “pick out portions” of the available trees and do not “sweep the forest clean” because “there are plenty of trees which are of no commercial use.”<sup>91</sup> But Ahern had a different type of selection in mind when claiming, “The Filipino knows nothing of estimating standing timber, selection of trees to be felled, and protection of younger growth.”<sup>92</sup> Ahern's vision was attuned to the tenets of Euro-American forestry and specifically modern silviculture in which selective logging meant the combination of

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<sup>89</sup> Gifford Pinchot, *A Primer of Forestry: Part 2, Practical Forestry* (Washington: GPO, 1905), 28-30; “Talks No. 9,” 12.

<sup>90</sup> John Foreman, *The Philippine Islands*, 2<sup>nd</sup> ed., 316.

<sup>91</sup> “Testimony of Adolph von Bosch,” 112.

<sup>92</sup> *Report of the Philippine Commission*, Appendix II, (1901), 3.

market demand and the reproductive qualities of desirable species within a localized forest community. For forestry advocates, selective logging was meant to reorient the whole forest to the market, not merely the wood of individual trees. Silviculture was based on upon the commodification of wood *and* trees' reproductive abilities. Such dual commodification was the domain of modern forestry alone.

Forestry officials' mandate of development and reform was based upon their understanding of the silvicultural conditions of the forests. In 1900, Americans believed that the most valuable tree species in the Philippines were those that contained fine cabinet, furniture, and veneer woods, but these tended to make up only small fractions of the forests. The rest of the forests were composed of inferior woods with little or no market value. Moreover, Pinchot noted in 1902, that one of the most striking features of the "virgin" Philippine forests was "the constant presence of practically every age class," which led Pinchot to conclude that much of the Philippine forests were "silviculturally in an admirable condition."<sup>93</sup> Therefore, Ahern and Pinchot agreed that in order to stimulate the reproduction of valuable species, loggers had to remove old high-value trees, which were past their reproductive prime anyway, as well as some trees of inferior value.<sup>94</sup> As Ahern stated in one of his first official reports, "Lumbermen must be willing to take dozens of varieties of tree species, these species may not be desired by the lumbermen, but the forester must get rid of them."<sup>95</sup> In contrast to the indigenous loggers' system of high-grading, the bureau sought to introduce this new system for silvicultural benefit.

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<sup>93</sup> Pinchot, "Talk No. 9," 12.

<sup>94</sup> This meant, as Ahern observed in 1901, that "The duty of finding a market for such varieties thus devolves upon the Forestry Bureau..." (*Report* [1901], 10). This is the subject of Chapter 3.

<sup>95</sup> *Report* (1900), 7.



Selective logging also provided the bureau with greater control over how forests were logged by reducing loggers' managerial control over woodcutting. For U.S. forestry officials, selective logging embodied the unique skill and training of a modern forester, and it was that skill and training that made logging by selection the domain of trained experts.<sup>96</sup> At U.S. forestry schools, students learned how to select trees for removal that would provide the basis for silviculture. This training set U.S. forestry graduates apart from uneducated loggers who, they claimed, logged without regard for the future condition of the forest. In addition, such expertise provided the justification for regulating indigenous woodcutters. As Ahern hired more Filipino rangers and recruited forestry graduates from the few U.S. forestry schools, the bureau officials began to wrest control of part of the means of production from local woodcutters. As other scholars have argued, it was this technocracy that served as the imperial basis for environmental management in much of the colonized world.

However, Americans' expertise arose out of local knowledge and conditions, even though Americans believed they brought modern forest management to the islands. In order for selective logging to function as it was designed, it required an intimate knowledge of the forest, which the Americans in the Philippines did not possess. When Henry Graves inspected the work of the Bureau of Forestry in 1904, at Gifford Pinchot's request, he observed that no forestry officials had knowledge of the islands' tree species, but rather depended upon Filipino recruits. He noted, "The present situation is that the American officers are constantly asking the rangers and the candidates for rangers the names of the trees. In other words, the young native woodsmen have a better knowledge

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<sup>96</sup> Henry Graves, "The Study and Practice of Silviculture," *The Forester* Vol. 7, 107.

of the different trees than the foresters themselves.”<sup>97</sup> Americans depended upon local people to make the forests legible to science and to the market, and though Americans provided a framework for understanding and utilizing the forests in a modern way, they required Filipino/as to fill in the content. Moreover, though forestry officials argued that high-grading was oppositional to a silvicultural approach, both were systems of timber production oriented to the market and based upon the commodification of trees. What was modern therefore was the presence and power of experts. Modernity, in this case, was a matter of relabeling. Once U.S. officials accepted and interpreted local environmental knowledge, they could relabel it as environmental reform and a modern understanding of the Philippine forests.

Furthermore, Americans did not have the time to get to know the forests; they had to rapidly make the forests productive in order to justify colonialism and legitimate their own existence within the colonial administration. In the United States, forestry advocates, naturalists, and botanists had come to know the American woods through generations of logging, deforestation, and reproduction. Forest scientists had studied the reproduction of white pine and spruce in cut-over areas of northeastern U.S. forests for generations. Henry Graves, for instance, claimed to understand how to generate profitable and conservative spruce harvests every twenty years in the Adirondacks.<sup>98</sup> On cut-over lands across the United States, as well as on private forests and the new forest reserves, U.S. forestry officials began to study yield and reproduction and to implement silvicultural programs. But, in the Philippines, the colonial administration had no such time for

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<sup>97</sup> Graves, “Confidential Report,” 13.

<sup>98</sup> Henry S. Graves, *Practical Forestry in the Adirondacks* (Washington DC: GPO, 1899).

research and study. Forestry officials conducted surveys even as loggers reduced the forests. The bureau worked to establish an experimental forest, but this was prioritized far below increasing production. In order to stimulate demand for Philippine timbers, the bureau encouraged logging and demonstrated the productive qualities of the Philippines' forest products industries through advertisements. In the United States, what counted as modern forestry – or the combination of science and market orientation – was formed in the open spaces of cut over lands where foresters studied reproduction. But, in the Philippines, the colonial need for economic development exerted greater force over scientific knowledge, and what counted for modernity in the Philippines was the ways that local knowledge helped set the timber industry on its way.

Beyond the selection of trees for felling, the bureau criticized Native logging methods for being crude and inefficient. The realities of logging for the market caused Filipino loggers to commit a number of acts that the bureau considered wasteful. First, because many of the merchantable tree species had buttresses that rose from ten to fourteen feet above the ground and interfered with cutting, loggers built scaffolds that permitted them to reach above the buttresses. (Figure 2.1) They cut nearby young and small-diameter trees to build the scaffolds, which the bureau officials criticized for the destruction of valuable young trees.<sup>99</sup> Moreover, leaving behind tall stumps seemed an obvious waste of wood. U.S. forestry officials had encountered a similar problem in the Pacific Northwest where early loggers “left stumps sometimes from 15 to 18 feet high” in order to avoid “root swellings, pitchy butts, and other defects.”<sup>100</sup> American foresters

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<sup>99</sup> *Report* (1904), 17.

<sup>100</sup> Bryant, *Logging*, 94. See also Charles Sargent, *Report on the Forests of North America* (Washington DC: GPO, 1884), 574.

criticized the wasteful practice, but their criticism also revealed loggers' sophisticated knowledge of tree species such as which trees contained excesses of pitch that wasted time in felling, transportation, and manufacturing. The Pacific Northwest trees were so



PLATE XII.

Narra (*Pterocarpus indicus*). Diameter, 200 centimeters above buttress (3.8 meters) ; bole, 10 meters.  
Place: Delta of Bongabon River, east coast of Mindoro.

Figure 2.1 “Narra (*Pterocarpus indicus*). Diameter 200 centimeters above buttress (3.8 meters) : bole 10 meters. Place: Delta of Bongabon River east coast of Mindoro.” Americans were very impressed by the large buttresses on some Philippine trees even though they presented significant obstacles to efficient logging. Present in this photo is the emergence of hybrid technologies. The Filipino workers hold forestry tools to measure the trees. But, the workers' abilities to erect scaffolding and climb the trees in order to put the tools into action made the bureau dependent on local labor and knowledge.

tall and loggers' knowledge had become so refined that loggers simply climbed or built scaffolding above the problematic lower portions of the trees in order to glean only the best merchantable timber for the market. From a technocratic point of view, the problem was two-fold: the market did not provide incentive for expending the effort to remove the pitchy, heavy, hard-to-cut butt ends; and loggers did not possess the tools and machines

that could haul the enormous logs. This was a job for forestry experts who specialized in solving environmental and economic problems through innovation and technology. On the one hand, forestry experts must stimulate market pull forces by researching and developing new marketable uses for previously unused wood. On the other hand, they must facilitate the use of powerful machines to haul these large trees out of the forests.

In order to solve the buttress problem in the Philippines, the bureau's experts attempted to develop new, desirable products for the marketplace. After conducting timber tests and workshop experiments on the buttress problem, the bureau's carpenters learned how to fashion attractive table tops out of the tall buttresses. The carpenters cut large, beautiful single-piece slabs of wood from the buttresses, many of which were taken from coveted species such as narra (*Pterocarpus indicus*). But, even though these grand furniture pieces impressed Americans greatly and appeared to solve the buttress problem, loggers generally only possessed limited cutting tools and the process of removing the massive buttresses was laborious. Most loggers supplying the markets did not take time or expend effort removing the buttresses, but rather cut above them and left the high stumps behind. The bureau officials hoped that with the introduction of cross-cut saws, which would replace fellers' axes, indigenous loggers would be able to cut the broad tree bases.<sup>101</sup> However, even though cross-cut saws were neither expensive nor scarce, cutting the large, heavy butt-ends became a transportation problem that the bureau struggled to overcome.

The second supposedly wasteful practice was that loggers only removed short lengths of timber because of the difficulty in transportation and they left the remaining

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<sup>101</sup> Cox described the importance of cross-cut saws to felling in *Mills and Markets*, 227.

lengths on the forest floor. Ahern claimed that loggers left “as much as 40 to 60 percent” to rot in the woods. Bureau foresters argued that apart from the wasted merchantable lengths, the tops should also be utilized for firewood so as to not impede young saplings’ growth or create conditions for fire.<sup>102</sup> Moreover, the areas of the trees between the root swellings and the branches contained fewest knots, crooks, or other defects and loggers cut only a portion of the bole because the trees were unlikely to provide more than one length that was both movable and marketable. American officials generally saw this as a waste of valuable wood, but loggers showed economy and efficiency in their work by only spending time on those portions that would bring a good return. Time spent hacking away branches from wood that would not bring a good return was also a form of waste. The basic problem was the transportation of large logs. Ahern could not criticize the loggers for exhibiting market savviness, but rather he hoped that the importation of hauling equipment to the islands would change the loggers’ methods.

And third, woodcutters’ preference for medium-sized trees presented problems for the bureau’s silvicultural plans.<sup>103</sup> The bureau officers hoped to remove the largest trees from the forest for a number of reasons. Large, or “over-mature” trees as U.S. officials called them, tend to grow more slowly, and therefore added less merchantable timber over time to the forest than young, maturing trees. According to most silviculturalists, large trees were also past their reproductive prime, whereas medium-aged trees produced the most viable seeds. Forestry authorities generally imagined that large trees were a nuisance, and signified an unattended, wild forest in need of thinning. Large trees may

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<sup>102</sup> *Report* (1902), 474.

<sup>103</sup> *Report* (1902), 474-475.

have meant large amounts of merchantable lumber, but just as often they contained defects such as rot, insect cavities, or other forms of damage. It was for this same reason that American and other foreign logging operators also coveted medium-sized trees; they were as market savvy as the local cutters. But, the bureau was committed to enlisting the help of foreign investors to cull the superannuated trees.<sup>104</sup> Ahern assumed that American companies with large, powerful machinery could move the big, old Philippine trees just as they did with the similarly massive Pacific Northwest trees. But, small operators did not have the capital for machines that could remove big trees. Rather, while the bureau hoped to introduce industrial operations into the most valuable areas of the forests, Ahern worked to increase the size of his ranger force to patrol the woods and regulate small operators' methods. In this way, Ahern could increase production through modern means while also reforming indigenous methods of timber production.

But, many of these reforms had limited meaning as long as transportation remained a serious obstacle to production. In most early observations of the Philippine timber industry, chroniclers paired transportation with labor as the two largest problems in timber production.<sup>105</sup> More than any other aspect of Philippine logging, the teams of carabaos that transported logs symbolized the antiquated and decrepit nature of the industry for American onlookers and further argued for the introduction of modern machinery.<sup>106</sup> A team of carabaos could do more work than humans, but nonetheless held limitations for market-oriented logging. The most immediate problem was the scarcity of

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<sup>104</sup> See note 72 above.

<sup>105</sup> Foreman, *The Philippine Islands*, 373; Carpenter, "Resources in the Philippines;" Ahern, *Important Philippine Woods*, 13-14.

<sup>106</sup> Burzynski, 188.

carabaos in the islands since a rinderpest epidemic swept the islands between 1886 and 1888 and severely depleted their numbers.<sup>107</sup> The animals were even scarcer in logging operations because they were essential to farming and cash-crop production. Even when animals were available for hire, British and American observers criticized the animals' poor performance. Foreman observed about carabaos, "It is not of great endurance, and cannot support hard work in the sun for more than a couple of hours..."<sup>108</sup> Ahern agreed and he warned prospective investors that the animals "will not meet the demands of the American lumberman."<sup>109</sup>

With relatively few animals available for hire, and given their limitations for hauling heavy loads, teams of carabaos only hauled short logs to the coasts.<sup>110</sup> Thomas Collins had testified that an "average log" required "eight to ten carabaos," but this had little meaning because of the scarcity of carabaos and the various densities of the islands' many timber species.<sup>111</sup> While four loggers were sometimes able to carry a short of log of perhaps four feet, carabaos were needed for longer timbers. Lighter woods such as calantas (*Toona calantas*), sometimes called the "cedar of the Philippines," could be handled in lengths of up to ninety-eight feet, but denser timbers had to be cut down to lengths of thirty-two feet or less.<sup>112</sup> Americans repeatedly photographed the animals straining against the gigantic logs in order to show how hopelessly inadequate the

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<sup>107</sup> Foreman, *The Philippine Islands*, 391. Other scholars have given different dates for this epidemic. According to Brian Fegan the initial outbreak lasted from 1887-1892 but continued intermittently until 1914. See Brian Fegan, "The Social History of a Central Luzon Barrio," in Alfred W. McCoy and Ed. C. Jesus, eds., *Philippine Social History: Global Trade and Local Transformations...*, 99-100.

<sup>108</sup> Foreman, *The Philippine Islands*, 390.

<sup>109</sup> Ahern, *Important Philippine Woods*, 14.

<sup>110</sup> Plate in Report, 1912.

<sup>111</sup> "Testimony of Thomas Collins," 82. See also "Testimony of Adolph von Bosch," 112.

<sup>112</sup> *Report* (1902), 482.



animals were for the large, heavy tropical hardwoods. (Figure 2.2) Nevertheless, with few mechanized operations in the islands, Ahern's campaign to showcase the forests' potential and to cull the woods for silvicultural benefit was dependent upon the islands' only draft animals. And, even as Ahern praised steam engines and railroads as the



**HAULING LOGS BY CARABAO.**

Figure 2.2 "Hauling Logs by Carabao." Here, four carabao are needed to haul a log that is perhaps 8 feet in length and 3 feet in diameter. In addition, several men are employed to move the single log. A forester's vision was to replace the carabao with a steam train, the nine men with two or three, and the single log of modest length with several larger logs.

salvation for one of the timber industry's biggest hurdles – transportation of massive, heavy logs – it would take two decades and substantial amounts of capital to begin to supplant the carabaos with machines. Even as the bureau was forced to rely on these beasts for the foundation of a modern lumber industry, Ahern kept a close watch on industrial developments in West Coast logging operations and promoted the use of American machines in the islands.

Americans who became excited about the prospects of civilizing Filipino/as and acquiring Philippine timber believed that American logging machinery represented the height of modernity. Industrial logging in the United States had evolved to include modern machines along with the engineers and replacement parts needed to make them run. The most important task that new machines served in the timber industry was to transport logs out of the forest, and in the lumber industry to saw logs at the mills. As historians of the timber and lumber industries have shown, American machinery became a regular part of large-scale logging and sawing operations in the Pacific Northwest after the U.S. Civil War, but increased in importance because of developments in saw blades, the “endless chain saw,” steam engines (for mills and logging), and cables capable of hoisting massive logs.<sup>113</sup> Ahern and other colonial officials imagined that replacing carabaos with steam engines would both end loggers’ practice of leaving large merchantable timber lengths in the forests and increase the amount of timber that could be pulled from the forests. And in mills, new saw blades and modern organizational systems would increase the mills’ capacity for lumber production. In short, bureau officials believed that in machinery was found the melding of Americans’ dual interests in development and reform.

In Ahern’s estimation, the single most promising piece of machinery was the “donkey” engine and its accompanying cables.<sup>114</sup> Ahern claimed, “the introduction of American methods of lumbering, especially the adoption of the ‘bull donkey’ and wire cable system, will make possible the practical, conservative exploitation of many species

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<sup>113</sup> Rajala, *Clearcutting*, chapter 1; Williams, *Americans and Their Forests*, 194.

<sup>114</sup> For the important contributions of the donkey engine see Cox, *Mills and Markets*, 231.

which with the present antiquated methods is impossible.”<sup>115</sup> In the United States, the donkey engine and the use of wire cables had changed logging by allowing woodcutters to remove large logs from steep hillsides where human or animal power had previously been insufficient.<sup>116</sup> But, as Richard Rajala has pointed out in his study of Pacific Coast logging, these engines and cables changed the work, but did not necessarily make it easier or faster.<sup>117</sup> These early engine and cable machines were used primarily for “yarding,” or moving a log from where it fell to a transshipment point with other logs that waited to be taken to the mill.<sup>118</sup> In the United States, donkey engines did not replace animals overnight, and in some regions animals remained the primary source of transportation until the 1930s. Rather, logging operators in the Pacific Northwest used donkey engines for yarding, and teamsters continued to haul the logs down skidroads to log flumes or waiting railcars.<sup>119</sup> Eventually in the Pacific Northwest, railroad spur lines connected the yarding areas with the railway’s mainline, and this was the ideal that Ahern had in mind for the Philippines. He hoped for a modern system in which donkey engines yarded the logs and railways carried the logs to the mills.

Similar to the way that expertise removed some of the managerial components from loggers’ work, machines reduced the workforce and obviated some tasks. As Rajala noted, steam engines helped to reduce the timber operator’s dependence on skilled teamsters who handled animals, knew rigging techniques, and mastered the team’s

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<sup>115</sup> *Report*, (1902), 474.

<sup>116</sup> See Michael Williams, 216, 251-2, and 258-9; Rajala, *Clearcutting*, 14-20.

<sup>117</sup> Rajala, *Clearcutting*, 17.

<sup>118</sup> Cox, *Mills and Markets*, 231.

<sup>119</sup> Rajala, *Clearcutting*, 17-18.

difficult drive through the woods. Steam engines, the teamster's replacement, tended to share more in common with the operator and were easier to find as engines proliferated in the U.S. timber industry.<sup>120</sup> In the Philippines too, if donkey engines could replace teams of carabaos, then the control over transportation would move out of the teamster's hands and into the hands of engineers and mechanics. But, once again, Ahern's desire to mechanize Philippine logging represented only an ideal of modernization. To this end, Ahern appealed to large American firms and stressed his belief and enthusiasm that American machines would be compatible with Philippine forests. In his 1902 *Report*, Ahern included photographs of mechanized logging operations in Oregon and California to demonstrate how necessary and appropriate such machines were for logging massive Philippine trees, as if by placing images of American machinery in the islands, he could summon the actual ones there.

In spite of American colonization and some Americans' zeal at making Philippine forests profitable, capital accumulation and relocation to the islands was onerous, took time, and had limited initial influence. It had not helped Ahern's cause that he included several negative comments about the status of the islands' timber industry in his initial reports. Newspapers picked up and reprinted Ahern's caveats and warnings about the decrepit nature of the industry sullyng his attempts to attract investors. Typical of dozens of newspaper reports from across the nation between 1900 and 1902, the *Utica, N.Y.*

*Herald-Dispatch* paraphrased Ahern:

“...the most serious drawbacks being lack of good roads and skilled labor. Forest roads and driveways are almost unknown, and present methods of lumbering are slow and expensive. The natives are not skilled workmen,

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<sup>120</sup> Ibid., 16.

and though receiving very low wages, their work is found by no means cheap when one considers the cost of felling and hauling a cubic foot of timber to the shipping point.”<sup>121</sup>

These difficulties and others slowed the industrialization of the Philippines timber and lumber industries, and not until the 1920s did industrialization increase.<sup>122</sup> After five years of colonial efforts the Philippines had only one operation, the Insular Lumber Company in Negros Occidental (Figure 2.3), that ran both modern logging and milling equipment. Moreover, the Insular operation could not produce but 855,600 b.f. of the 1.2 million b.f. of lumber per year expected by the bureau.<sup>123</sup> After 1910, production picked up speed. The archipelago’s operations produced 75 million b.f. in 1910 and that amount nearly doubled by 1917.<sup>124</sup> Yet, even given this increase in production, the amount produced did not come close to the bureau’s promised output or the production rates of any similar sized areas of the United States. In 1911, Forester Whitford stated that “The handling of 89,000,000 board feet annually can not be considered, comparatively speaking, a large business.”<sup>125</sup> But, in 1919, one U.S. trade magazine reported that there were “about seventy sawmills of all sizes and descriptions operating in the islands, about

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<sup>121</sup> “Forestry in the Philippines,” Utica, NY *Herald-Dispatch* (March 7, 1901), FHS USFS Newspaper Clipping File Box 28, Folder, “Philippines Forests and Forestry.”

<sup>122</sup> For more on the difficulty of attracting railroad capital see “Ten Years in the Philippines,” *National Geographic* (1908), 147.

<sup>123</sup> *Report of the Philippine Commission, Part 2* (1906), 275.

<sup>124</sup> *Report*, (1917), 76.

<sup>125</sup> H.N. Whitford *Forests of the Philippines: Part I* (Manila: Bureau of Printing, 1911), 50; May, 155.



THE MODERN PLANT OF THE INSULAR LUMBER COMPANY ON THE ISLAND OF NEGROS.

Figure 2.3 “The Modern Plant of the Insular Lumber Company on the Island of Negros.” This plant was pictured because it was the exception, not the rule, to large-scale investment in the Philippines during the first two decades of the twentieth century.

twelve of which can be compared to the average modern sawmills in the United States.”<sup>126</sup> Nevertheless, while industrial methods crept into the islands, the colonial administration’s incentives, policies, and promotions spurred timber operations that used older, customary methods in which loggers used axes, squared timbers, and hitched them to carabaos for transportation.

Furthermore, small operations that used older modes of logging and milling persisted because environmental conditions limited the influence of mechanized operations to specific places and people. In 1908, Forester Melvin Merritt surveyed areas of Mindoro, an island with a history of productive logging, in order to report on the

<sup>126</sup> “Lumbering in the Philippines,” *The Disston Crucible* Henry Disston & Sons: Philadelphia Vol. 8, No. 6 (July, 1919), 94.

potential for large, capital-intensive logging operations. Some areas contained such a diversity of species that Merritt wrote,

“this type of forest does not offer the best inducements to the large timber operator,[...]For the small lumberman, however, using the primitive method of logging generally employed, this type is the most desirable, for it lies closest to the shore and contains a sufficient amount of timber to meet his demands.”<sup>127</sup>

Merritt’s comment was not unique. Other foresters who conducted surveys noted the areas of the forest that were best suited for mechanized operations and those that were not. The bureau continued to depend upon small operators using older logging methods, even as U.S. officials openly criticized small operators for the waste that they produced. The bureau’s need for timber production amounted to an implicit support for traditional logging methods in the name of economic development. Though modern, mechanized operations were establishing trends in Philippine timber production, most loggers in the Philippines remained, as the District Forester of Laguna Province reported in 1915, “on a small scale, using only the most primitive methods of hand and animal logging.”<sup>128</sup>

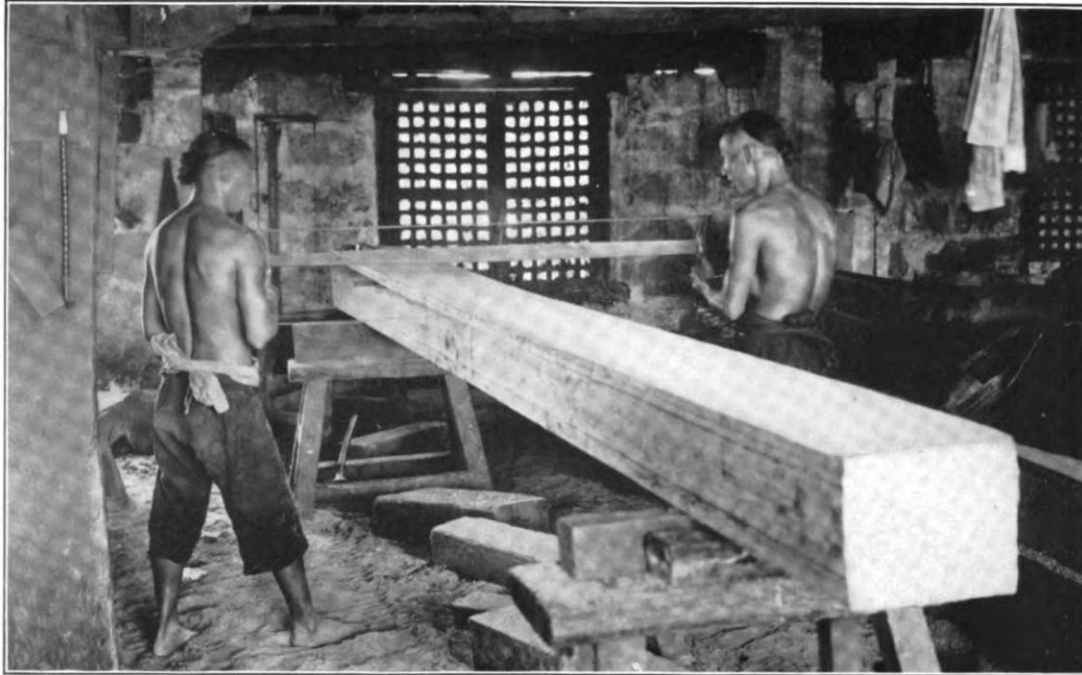
The work of sawing timber into lumber also brought about colonial scrutiny, and like labor arrangements and logging, traditional sawing methods not only persisted well into the American colonial period, but also helped establish a foundation for greater lumber production. When Americans surveyed Philippine sawmills, they focused on the large-capacity mills in Manila and the many smaller hand mills throughout the provinces that were often Chinese-owned and employed Chinese sawyers. Like the many pictures

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<sup>127</sup> Melvin L. Merritt, *The Forests of Mindoro* (Manila: Bureau of Printing, 1908), 15.

<sup>128</sup> *Report* (1915), 29.

that the bureau published showing older logging methods to demonstrate the need for reform, Americans routinely photographed Chinese sawyers sawing logs for the market



**CHINESE SAWYERS IN MANILA.**

The laborious methods here shown are rapidly yielding place to modern steam machinery.

Figure 2.4 “Chinese Sawyer in Manila: The laborious methods here shown are rapidly yielding place to modern steam machinery.” Indeed, what the image also demonstrates is the skill of the sawyers. Note the two-person crosscut saw wasted less wood than the machine-powered circular saws.

(Figure 2.4). Ahern and other colonial officials romanticized Chinese whip-sawyers as relics of an “Oriental” past still clinging to existence. The images of half-clothed Chinese bodies communicated a pre-modern engagement with nature. These photographs held the tension of bodies working unmediated against large woods, and the stillness of the photograph betrayed the difficult work being performed. Whereas Ahern’s photographs of mechanized logging in the United States showed Anglo-American bodies composed and in charge of the machines that performed the real work, the photos of Chinese



sawyers placed “Oriental” bodies in a locked struggle with timber. But, despite Americans’ critiques that this method of sawing was old and inefficient, some appreciation is detectable in their criticisms. Because of Americans’ dual hopes for the Philippines – that it would demonstrate exceptional American colonial reform and produce new trans-Pacific markets – they at once racialized Chinese sawyers as industrious and backward. What the Chinese sawyers demonstrated was that the Philippines contained a lumber industry on the verge of modernity, but that it needed American capital and socialization to make it fully modern.

Regardless of the image’s caption, hand sawing did not disappear quickly. Rather, Ahern advertised the disappearance of hand sawing in order to demonstrate momentum for the modernizing project. In 1902, the thirty-three hand mills in the islands produced nearly 1,900 cubic feet of sawn boards per day – the amount that one fully operational steam mill could produce. But, only one of the mechanized mills in Manila was running at near capacity. The others did not have trained mechanics, labor, understanding of Philippine woods, or regular supplies of timber and consequently ran far below their reported abilities. By 1907, the islands had only eight sawmills running on steam or water power, and according to Hamilton Wright, a regular promoter of American colonization, only three of the eight largest capacity mills in Manila were “equipped with thoroughly modern machinery.” Moreover, he added that these were “small plants as compared to those in the United States.”<sup>129</sup> The process of mechanizing sawmills was slow to start and difficult to maintain. As the bureau increased production demands to fill orders by the

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<sup>129</sup> Hamilton Wright, *A Handbook of the Philippines* (Chicago: A.C. McClurg & Company, 1907), 132.

Bureau of Insular Affairs, the U.S. military, and the new markets that began to emerge for Philippine timber, regular production depended upon the Chinese hand sawyers.

Other problems plagued the initial mechanized steam sawmills too. For example, particularly hard woods broke saw blades. Also, circular blades, the most common saw blades in use at the time, created enormous kerf waste and increased the price per log over that which hand sawyers charged. “Kerf” is the total width of a cut caused by the blade’s width and wobble, as well as the user’s skill, and the wood’s physical characteristics.<sup>130</sup> As Michael Williams has written, the same problem existed in the United States because a circular saw “had to be thick enough to maintain its rigidity” when sawing hard woods.<sup>131</sup> The problem was manifold in the Philippines where many tropical woods’ were far harder than American woods. However, hardness created high value, and there was no avoiding sawing the hardest woods. Bansalaguin (genera *Mimusops*), for instance, had come to be used for bullets during the Philippine revolution and also for nails, tool handles, and ships’ keels.<sup>132</sup> According to Williams, wide circular saw kerfs, which measured 5/16<sup>th</sup>-inch or more, were responsible for turning “312 feet into dust out of every thousand feet of inch board sawn.”<sup>133</sup> Such waste was what conservative forestry staff believed they should prevent even as they praised modern machinery. Traditional whip saws, on the other hand, produced a much thinner kerf and

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<sup>130</sup> Williams, *Americans and Their Forests*, 201-201, 303.

<sup>131</sup> *Ibid.*, 201.

<sup>132</sup> H.N. Whitford, *The Forests of the Philippines: Part II – The Principal Forest Trees* (Manila: Bureau of Printing, 1911), 90.

<sup>133</sup> Williams, *Americans and Their Forests*, 201-202; Rodney C Loehr, “Saving the Kerf: The Introduction of the Band Saw Mill,” *Agricultural History* 23 (1949), 168-172.

wasted less wood.<sup>134</sup> The answer to the saw blade problem was a kind of combination of whip saws and machine technology – the band saw. The band saw was both thinner and easier to feed than circular saws had been.<sup>135</sup> But, during the early U.S. colonial period in the Philippines, band saws remained expensive and required specialized welders and mechanics to maintain them. Few came to the islands by 1920. In 1905, only five of Manila's forty sawmills were powered by steam and only three used band saws.<sup>136</sup> Regardless of Ahern's desire to see the timber business mechanized, he was forced to admit that the older Chinese whip-sawyers came closer to conservationists' goals of minimizing waste than new modern equipment. Ahern was also forced to admit "the hand mill alongside the steam sawmill is running at a good profit."<sup>137</sup> By 1905, however, Ahern claimed that the hand mills in Manila began to saw less, as the mechanized mills increased efficiency.<sup>138</sup> This may have been true in the modernizing capital city, but hand mills proliferated throughout the rest of the archipelago.<sup>139</sup>

The few steam sawmills in Manila also had a difficult time during the early years because the timber trade tilted in the sellers' favor. The steam sawmill owners in Manila complained that Chinese and Filipino timber merchants did not operate on a principle of rational and efficient business dealing. The mills' buyers refused to humor shrewd timber sellers who came to Manila and sometimes spent days shopping around for the best mill

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<sup>134</sup> *Report* (1913), 6.

<sup>135</sup> For a brief history of the development of saw blades and their influence on industry see Thomas Cox, Robert S. Maxwell, et al., *This Well-Wooded Land: Americans and Their Forests from Colonial Times to the Present* (Lincoln: University of Nebraska Press, 1985), 66-67; and Loehr, "Saving the Kerf."

<sup>136</sup> *Report of the Philippine Commission, Part 2* (1906), 270.

<sup>137</sup> *Report* (1902), 469.

<sup>138</sup> *Report of the Philippine Commission, Part 2* (1906), 270.

<sup>139</sup> H.N. Whitford, *The Forests of the Philippines, Part 1: The Forests Types and Products* (Manila: BOP, 1911), 47.

prices. The timber sellers maintained the upper hand because milling capacity exceeded timber supply by more than a factor of two. As Ahern explained in 1905, “The sawing capacity of the 5 steam mills is about 2,500,000 board feet per month, while the timber received per month, in logs, in Manila averages only a little over 1,000,000 feet B.M.[board measure a.k.a. b.f.].”<sup>140</sup> The market situation benefitted the sellers because the mechanized sawyers needed business and competed against one another for the timber. Much to the dismay of Ahern and the mills, Chinese and Filipino sellers retained their power to shape prices.

Given this ongoing market experience, Ahern and the Bureau of Forestry recommended that Manila’s large mill owners form an association to regulate prices and present a united front to sellers. Such associations, the Americans believed, constituted a more efficient and rational way of doing business. Although timber buyers were forced to court sellers during the early days years of American colonization, the development of another technology in 1906 – the Philippine Lumbermen’s Association (PLA) – reoriented business dealings in the foreigners’ favor. The PLA and the Bureau of Forestry worked together to systematize timber prices and thus to obviate the delays caused by sellers’ good business sense. But, as with other parts of the American-inspired timber and lumber industries, the PLA did not simply overtake the market, control prices, or dominate the business. In fact, the PLA members had a difficult time agreeing upon grading rules and prices and the Association fell apart within a few years. Similarly, Richard Rajala has noted that U.S. and Canadian lumber associations on the West Coast exerted some force upon small operators and successfully restricted price fluctuations in

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<sup>140</sup> *Report of the Philippine Commission, Part 2* (1906), 270.

boom times, but their members ultimately also struggled for regional and national market dominance.<sup>141</sup> Ahern's promotion of the PLA was an effort to create a modern market, that is one in which capitalist actors controlled production and prices.

After 1908, the original PLA disintegrated, but the bureau continued to encourage the islands' largest lumbermen to form an association in order to address "Questions of publicity and the development of foreign markets, transportation problems, grading rules, training and appointment of lumber inspectors and all similar matters."<sup>142</sup> During 1915 and 1916, the bureau fostered a new Philippine Lumber Manufacturer's Association (PLMA) that quickly died also. By the end of World War I, the bureau was again trying to convince lumbermen to reestablish the PLMA in order to fully exploit new markets that had risen in China.<sup>143</sup> Even as production slowly increased over the first two decades of the twentieth century, essential elements of the U.S. modernization program, such as associations, continued to falter in the Philippines.<sup>144</sup> The bureau's reform efforts and its attempt to build a network of production centers, markets, research facilities, and transportation lines proved far more difficult than merely increasing production.

As with other parts of the timber economy, traditional sawing practices remained prevalent and important for decades. Many of the environmental obstacles that promoted the development of machine technologies in the Pacific Northwest also existed in the

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<sup>141</sup> Rajala, *Clearcutting*, xviii-xix. Thomas Cox makes a similar point in *Mills and Markets* regarding the earliest attempts to organize combinations and associations on the West Coast.

<sup>142</sup> *Report* (1919), 45.

<sup>143</sup> *Ibid.*, 44-45.

<sup>144</sup> *Forestry and Irrigation* also reported the existence of a Philippine Timber Cutters' Association during 1906. But, that Association does not appear elsewhere in the records. It may have been confused with the PLA. See *Forestry and Irrigation* (September, 1906), 409-410.

Philippines such as the presence of enormous trees and steep hillsides on which enormous trees grew. But other aspects of the timber and lumber industries were not similar thereby discouraging U.S. timber capitalists from entering the islands. For example, transportation was not merely a matter of building railroads. The work was all island-based, and companies required at least a few ships that could move large timbers and large orders of lumber. Whereas the colonial government permitted gratuitous use of the forests for the establishment of railroads, in the name of general infrastructural improvements, the same was not true of ships. Capitalists had to figure in the cost of ships that would operate in a notoriously typhoon-ravaged area of the world. In 1911, Forester Whitford noted that the lack of such ships suggested a small industry with limited capacity for industrial production.<sup>145</sup> Tropical investment also worried American capitalists, at least initially. The same reasons that American imperialists gave to justify colonialism – instability, incapacity, and irrationality – also worked to make the place appear unsettled, unsafe, and unsavory. Moreover, the accumulation and relocation of capital was dependent upon the status of capital in the United States. As capitalists accrued more capital during the 1920s, speculative investment in the Philippine forests appeared viable and profitable. By 1919, there were “about seventy sawmills of all sizes and descriptions operating in the islands, about twelve of which can be compared to the average modern sawmills in the United States.”<sup>146</sup> Even as more machinery was brought to the Philippines during the latter half of the American colonial period, traditional methods, carabaos, and hand sawing would remain essential for decades.

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<sup>145</sup> Whitford, *The Forests of the Philippines*, 49.

<sup>146</sup> “Lumbering in the Philippines,” *The Disston Crucible* Henry Disston & Sons: Philadelphia Vol. 8, No. 6 (July, 1919), 94.

## Conclusion

The colonial Philippines appeared to provide numerous opportunities for Americans to work out social, political, economic, and environmental questions and debates at issue in the United States. But, once the venue for addressing those questions and debates moved to the islands, the place and the people took part in the discussion. Of course, the imbalances of power within colonial processes structured the discussions in ways that limited local peoples' input. That is, U.S. colonial intervention may have presented new economic opportunities, of which local people took advantage, but these new opportunities were yet bound up in market relations that contained limited possible outcomes. And, even though the Philippine environments presented serious challenges to Americans' hopes for timber exploitation, Americans nonetheless remained determined to get the wood out. Yet, to only appreciate the imbalance of power and ignore the discussion is to miss how both those with more power and those with less were shaped by the exchange. Furthermore, doing so may lead to conclusions that U.S. power and market forces produce an irresistible force and inevitable outcomes – a focus on *what* happened as compared to *how*.

In the colonial Philippines, discussions of environments, resources, race, and capacity for work and governance (and, of course, other categories such as gender though not discussed here) were ongoing and therefore how events unfolded matters. Moreover, Americans were committed to a broad agenda, which gave form to the range of their options and choices. The expansion of capitalism and the civilizing mission exerted force

upon one another in unpredictable ways. In many cases during the first two decades of colonization, Ahern and other Progressives did not fully get their way. The highly idealized modern labor reforms that they hoped would transform Philippine society were left unfulfilled. But, that does not render the reform efforts irrelevant. There were, after all, a number of ways that Americans could have gotten the timber and lumber out of the woods. The importation of Chinese or Anglo-American workers, more immediate industrialization, or the wholesale prohibition of indigenous cutting all would have produced very different consequences for rural Philippine society. As it was, forestry officials' attempts to log the woods with modern systems and methods supported, to varying degrees, indigenous workers and methods.

And yet, Philippine society and forestry were transformed. Forestry officials eroded producers' control. The introductions of expertise and machine technologies began to replace timber and lumber workers' intimate knowledge of the forests. During the last decades of the Spanish regime, local woodcutters, haulers, and sawyers knew how to bring valuable timber to market, which allowed them to maintain control of production in most areas. Because Europeans and Americans remained convinced of their own inability to perform heavy manual labor in tropical environments and because Filipino/as took advantage of new market opportunities, timber production was dictated by labor. But, colonial discourses of modernization and standardization contained within them an inherent distrust of labor power and local control as well as a desire to see labor commodified. For laborers then, new market opportunities came with incorporation into market systems that were largely out of their control.



But, American's efforts to modernize the Philippines experienced more failures than successes, despite the reigning historical narratives that emphasize the power of the U.S. state and capital. Modernity in the Philippines came to mean the limited, but nonetheless promising, increases in timber production, and, with the modest increases in wage labor, the reclassification of some Filipino/as as modern workers. Pinchot, Ahern, and others maintained an ideal that they would have liked to see realized in both the United States and the Philippines. It was not possible in either. Therefore, the forestry ideal guided, but did not fully control the developments in the Philippine timber and lumber industries. Both Progressives' confidence that they acted as important agents of change and the colonial need to produce revenue, results, and arguments against anti-imperialists at home generated revaluations and redefinitions of modernity in the Philippines. That Americans did not control as much as they would have liked meant that timber and lumber workers as well as Philippine environments shaped outcomes. Modernization generally came in the form of increased production. But, increased production was due as much to the embrace of migratory Philippine laborers, Chinese sawyers, and carabaos as it was to bureau reforms, large capital investments, or mechanization.

American efforts did succeed in stimulating production of Philippine timber and turning more timber into lumber. But how did that happen? Though this chapter has argued for the importance of local peoples' participation and the bureau's redefinition of failures as successes, increases in production cannot be explained by these alone. The value of the Philippine forests was also undergoing change. In the next chapter, I explore how forest science and marketing opportunities altered the value found in the Philippine

forests. And, like changes to labor and production, Americans initiated changes to the value found in Philippine woods, but these changes were both highly consequential and not what Americans expected.

This chapter also complicates a pervasive story about U.S. colonialism in the Philippines: that the introductions of American forest management and industrial machinery led to the deforestation of the Philippine forests.<sup>147</sup> This story focuses on the end results of the commodification of Philippine forests during the twentieth century. And, while the introductions of American policymakers, machines, and capital are important elements in the history of the Philippines, this narrative obfuscates many details that speak to a more consequential aspect of U.S. imperialism – that government officials initiated practices and policies that they could not entirely control. The consequences were both good and bad for local people as they struggled to enhance their own economic opportunities. Moreover, this declensionist structure attributes more power to the U.S. forestry regime than it actually possessed, and such a history relegates local peoples' desire for access to markets and sources of income to the historical trash heap. This chapter shows that while many U.S. schemes for development and reform failed, indigenous woodcutters, Chinese sawyers, and other local peoples using customary practices increased production and established a foundation for modern commercial logging.

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<sup>147</sup> See Richard P. Tucker, *Insatiable Appetite: The United States and the Ecological Degradation of the Tropical World* (Lanham, MD: Rowman & Littlefield Publishers, Inc., 2007).

### Chapter 3

## U.S. Forestry and the Dipterocarp Revelation in the Philippines

### Introduction

Colonial administrators, investors, and writers such as John Foreman, the English aggregator of Philippine information, relied upon the basic division of tropical forest products into “Principle produce, or Wood” and “Minor Forest Produce” articulated by Sir William Schlich, the former Inspector-General of the Indian Forestry Service, in *A Manual of Forestry* (1889).<sup>1</sup> The division of timber from “minor” forest products, today known as “non-timber forest products” (NTFPs), represented an administrative outlook and a broad valuation of forest products in the market. But the division was itself historical.<sup>2</sup> Colonial foresters established it when Europeans began to require large amounts of lumber and firewood to maintain their empires. Timber was essential for railroad, naval, and urban construction as well as for mining operations both as shaft timbers and fuel for smelters, among much else. NTFPs maintained a comparatively low status, but they also highlighted the Euro-American dependence on the tropics in ways that timber did not. Although useful timbers could be found in the metropole, most NTFPs from the tropics, such as rubber, gutta percha, and rattan could not and therefore helped justify the colonial desire to possess tropical forests. The Philippine Bureau of Forestry investigated the islands’ resins, gums, grasses, and other products. While some NTFPs, such as gutta percha, a rubber-like substance gleaned from the sap of certain

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<sup>1</sup> William Schlich, *A Manual of Forestry* Vol. I (London: Bradbury, Agnew & Co., 1889), 13-15.

<sup>2</sup> This division is still recognized in academic work on forestry and is especially pervasive in works on colonialism and economic development of non-industrialized places. What began as “minor” forest products is mostly now known as “non-timber forest products (NTFPs).”

species and used for electrical insulation especially of undersea cables, excited American colonizers, the scale and extent of Philippine timber remained the bureau's central preoccupation.

Although coal was becoming a new fuel source in some parts of the world during the nineteenth century, timber continue to increase in importance for colonial powers. Industrial societies had begun to take wood for granted as the most valuable global forest product, but how forestry officials determined the value of certain species shaped tropical environments in new ways. Timber tests, microscopy, and wood preservation techniques came into vogue in Europe as forestry advocates experimented with more efficient uses of wood. The Spanish, British, and Dutch Empires used the knowledge of specific tropical timbers to build impressive navies, attract investors, collect revenue, and erect colonial infrastructure. Furthermore, this division represented the ideological foundation of the disruption of traditional land use patterns within colonial empires. Because timber comprised the primary colonial forest commodity, and because timber extraction changed forest environments in profound ways, indigenous forest dwellers began to lose control of forest labor, economies, and social relations as colonial logging interests restricted access to trees.

Tropical forests held special promise for American forestry advocates and devotees of fine hardwoods. Tropical woods had captured Americans' imaginations since traders brought cargoes of mahogany (*Swietenia mahogany*) into the British colonies for ship and furniture builders during the late seventeenth century.<sup>3</sup> Americans prized

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<sup>3</sup> Jennifer L. Anderson, *Mahogany: The Costs of Luxury in Early America* (Cambridge, MA: Harvard University Press, 2012); Edward Chaloner, *The Mahogany Tree* (Liverpool: Rockliff and Son, 1850); William Farquhar Payson, ed., *Mahogany Antique and Modern: A Study of its Use and History in the*

mahogany from the Caribbean Basin because of its weight-to-strength ratio, attractive appearance, and ease with which woodworkers crafted fine furniture. Teak (*Tectona grandis*) was a similarly valuable tropical wood, though it had not made the same inroads into American markets. Americans became aware of teak through the British government's attempts to control and manage the teak forests of South and Southeast Asia during the nineteenth century.<sup>4</sup> English and Dutch ship and furniture builders favored teak for the characteristics that it shared with mahogany: strength and beauty. And, the British management of teak forests in India and Malaysia served as an early inspiration for state forest management first in the United States and later in the Philippines.<sup>5</sup> After the United States annexed the Philippines, U.S. forestry officials became excited at the possibilities that they saw in the tropical Philippine forests both for the chance to exhibit U.S. forest management and the opportunity to exploit tropical hardwoods.

However, when American forestry officials arrived in the Philippines they were bewildered and at times disappointed by what they found. U.S. diplomats, botanists, and timber capitalists knew of the successful British, Dutch, and French timber operations in the tropics, and Americans' imperial optimism prepared them to find great and valuable

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*Decorative Arts* (New York: E.P. Dutton & Company, 1926), 111-113; F. Bruce Lamb, *Mahogany of Tropical America: Its Ecology and Management* (Ann Arbor, MI: The University of Michigan Press, 1966), 17-21; Richard P. Tucker, *Insatiable Appetite: The United States and the Ecological Degradation of the Tropical World* (Lanham, MD: Rowman & Littlefield Publishers, Inc., 2007), 186-191; Michael Williams, *Deforesting the Earth: From Prehistory to Global Crisis An Abridgment* (Chicago: The University of Chicago Press, 2006), 204, 280.

<sup>4</sup> Williams, *Deforesting the Earth*, 330; Nancy Peluso, *Rich Forests, Poor People: Resource Control and Resistance in Java* (Berkeley: University of California Press, 1992), 49-50; S. Ravi Rajan, *Modernizing Nature: Forestry and Imperial Eco-Development, 180-1950* (Oxford: Oxford University Press, 2006), 84-85; Dietrich Brandis, *Report on the Pegu Teak Forests, 1857-1860* (Calcutta, 1861).

<sup>5</sup> Gifford Pinchot, *Breaking New Ground* (Washington DC: Island Press, 1998 [1947]), 8-9.

woods in the Philippines. What they encountered in the archipelago, however, were forests of incredible biological diversity that lacked pure stands of well-known, high-value tropical woods. Though they perceived the Philippines to be part of a single “tropical” zone of forest commodification, they found that the Philippines’ forests were unlike the famous colonial teak forests of Java and India or the mahogany-rich forests of the Caribbean Basin. Beyond the lack of teak and mahogany, U.S. officials worried over the heterogeneity of the Philippine forests. Because the American logging industry and U.S. forestry advocacy had developed in relation to more homogenous stands of trees in North American forests, the Philippine biodiversity presented a significant obstacle to capital investments and environmental management in the islands’ forests.

After Ahern organized the Philippine Bureau of Forestry, he and his small staff focused on turning the vast, largely unknown Philippine biodiversity from a liability into an asset. Ahern was under pressure to put the forests into production and the bureau relied upon botanical identification and classification, timber-testing and microscopy, along with other scientific methods to promote forest products. It was a logical beginning. In the United States too, product development fueled scientific forestry’s initial phases during the 1880s. Forestry advocates studied woods’ characteristics and offered their scientific expertise to the lumber industry as an opening into a cooperative relationship.<sup>6</sup> They argued that foresters’ expertise would ensure national economic health through greater industry efficiency and the conservation of forest resources. Similarly, the Philippine Bureau of Forestry advertised and showcased forest products in publications and expositions in order to entice large, capital-intensive timber and lumber

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<sup>6</sup> Charles A. Nelson, “History of the U.S. Forest Products Laboratory, 1910-1963,” (dissertation, University of Wisconsin, 1963), 1-12.

operations to locate in the islands. Ideally, mechanized lumber companies would develop the silvicultural potential of the forests by culling the less desirable species so that the more valuable species could flourish. Through the identification, classification, and commodification of the Philippines' biologically diverse forests, U.S. officials hoped to develop a long-term management scheme for the forests.

But, by 1905 the Bureau of Forestry was embattled, and though its research and experiments had created long lists of species and magnificent exhibits of products, they had not produced a working commercial knowledge of the forests. In 1905, Henry Graves, the Dean of the Yale School of Forestry, visited the islands at Gifford Pinchot's request and wrote a scathing critique of the bureau. He reported that forestry officials conducted botanical investigations and collected revenue, but that these were not the work of scientific forestry. The duty of the bureau's foresters, Graves pointed out, should be to produce forest plans and create workable forests that generated predictable amounts of timber of certain species.<sup>7</sup> Though botanical studies tended to expand the bureau's body of knowledge, forestry required the simplification of state knowledge for the sake of efficiency.<sup>8</sup> For all of the bureau's focus on identification and advertisement, it could not see the forests for the tree species.

After 1905, the bureau shifted course. New forest plans reflected revised forestry mandates and evolving notions of the Philippines' colonial status. Though some Americans had imagined the islands to be a resource depot, by the end of the first decade

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<sup>7</sup> Henry S. Graves, "Confidential Report on the Condition of the Philippine Forest Service," Library of Congress, Gifford Pinchot Papers, Box 640.

<sup>8</sup> James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven, CT: Yale University Press, 1998), chapter 1.

of colonization the United States had guaranteed eventual Philippine independence. The forests therefore served as a public domain and supplied large amounts of construction timber for both nation and empire building. Moreover, the new forest plans focused on the identification of “forest types,” a silvicultural technique in vogue in American academic forestry. Forest typing and the demands of the colonial state mentioned above diverted Philippine foresters’ attention from individual species to families of trees – namely the *Dipterocarpaceae* family. In 1908, Ahern and the bureau reversed their stance on the islands’ biodiversity and reported that seventy-five percent of the Philippines’ forests were “composed of so few species that they can, from a lumberman’s standpoint, be regarded as *pure stands* (italics in original).”<sup>9</sup> They had come to portray the forests not as colonial botanists had, but specifically as state foresters, and the Dipterocarp forests held the allure of addressing a variety of needs.

This chapter examines the best known story of the Philippine forests – the American attention to the Dipterocarp family and the origins of modern logging in the Philippines. Whereas current scholarship tends to take the American attention to Dipterocarps for granted within the framework of modern Southeast Asian forestry, this work traces the historical shifts in American attempts to derive meaning and assign value to the forests, first as tropical abundance, then to intimidating biodiversity, and finally to “pure stands” of Dipterocarp forests during the first decade of the twentieth century.<sup>10</sup>

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<sup>9</sup> George P. Ahern, *Annual Report of the Director of Forestry of the Philippine Islands*, (Manila: Bureau of Printing, 1909), 10. Hereafter listed as *Report*.

<sup>10</sup> Tucker, *Insatiable Appetite*; Lesley Potter, “Forests versus Agriculture: Colonial Forest Services, Environmental Ideas, and the Regulation of Land-use Change in Southeast Asia,” in Lye Tuck-Po, et al. eds., *The Political Ecology of Tropical Forests in Southeast Asia: Historical Perspectives* (Victoria, Australia: Trans Pacific Press, 2003), 29-71. Potter’s comparative approach is the best of recent scholarship, and though she historicizes the commodification of some woods, such as Philippine molave, she jumps over the contingent factors that produced commodification of Dipterocarps (33).



Furthermore, it contrasts with scholars who have argued for the primacy of either state simplifications or aggressive capitalism as the most consequential factors in colonial spaces.<sup>11</sup> It illuminates the Philippine forests and forest products themselves in these historical processes, and reveals the ways that foresters negotiated the confluence of scientific forestry, bureaucratic pressures, and colonial desires.

### **The Promise of Biodiversity: Tropical Abundance**

Most Americans knew very little about the Philippines when Filipino/a nationalists rose up against their Spanish colonizers in 1896.<sup>12</sup> What Americans knew they had gathered from a smattering of newspaper accounts and magazine articles. Perhaps some had read John Foreman's *The Philippine Islands*, the most authoritative work on the archipelago for English-speaking audiences.<sup>13</sup> Regardless, most information on the Philippines highlighted what David Arnold has called "tropicality" – the set of Euro-American beliefs that the people who lived in the tropics were lazy and ignorant while the tropical environments were rich and productive.<sup>14</sup> In 1899, after the United States had committed to colonization and the Philippine Commission began collecting

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<sup>11</sup> James C. Scott, *Seeing Like a State* contains one of the best arguments about how the power of the state bends others to its way of "seeing." For examples of how capitalism acts as the most powerful force of change, see William Robbins, *American Forestry: A History of National, State, and Private Cooperation* (Lincoln: University of Nebraska Press, 1985), chapter 2; *Colony and Empire: The Capitalist Transformation of the American West* (Lawrence, KS: University of Kansas Press, 1994).

<sup>12</sup> Michael Adas, *Dominance by Design: Technical Imperatives and America's Civilizing Mission* (Cambridge, MA: The Belknap Press of Harvard University Press, 2006), 131.

<sup>13</sup> John Foreman, *The Philippine Islands* 2<sup>nd</sup> ed. (New York: Scribner's and Sons, 1899); Adas, *Dominance by Design*, 132.

<sup>14</sup> David Arnold, *The Problem of Tropical Nature: Environment, Culture, and European Expansion* (New York: Wiley-Blackwell, 1996).

information on the archipelago, the travel writer Frank G. Carpenter authored an article that played on one aspect of the Philippine forests: tropical abundance.<sup>15</sup> Titled “Resources of the Philippines,” the article focused on the islands’ forests and minerals and was published in the *Omaha Bee* on February 14, 1900 and reprinted in other U.S. newspapers.<sup>16</sup> As with many of his other travel narratives, Carpenter wrote with a sense of awe at the world around him, taking cues from earlier observers who remarked upon the presence of rich, abundant resources in the tropics.<sup>17</sup> Though lumber and sawmills may not have been subjects that readers would have normally found enthralling, Carpenter’s passion for authoring exciting travel narratives made him a *de facto* spokesperson for the Philippine lumber industry. Taking the reader’s viewpoint, Carpenter highlighted his incredulity,

“When I was told...that there were in the Philippines rosewood logs nine feet in diameter, and that the ties of the Manila-Dagupan railroad were made of mahogany, I was inclined to doubt the statements. But now that I am on the ground I doubt them no longer.”

The hardwood forests surpassed his expectations. He exclaimed that there existed “300 varieties of hardwood on the islands, of which at least fifty have a high commercial value.” He described the lumber markets and sawmills in Manila as vibrant and humming enterprises that dominated the city’s atmosphere.<sup>18</sup> Carpenter and other writers set the

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<sup>15</sup> Teresa Marie Ventura, “American Empire, Agrarian Reform, and the Problem of Tropical Nature in the Philippines, 1898-1916” (dissertation, Columbia University, 2009), 16-61. Nancy Stepan, *Picturing Tropical Nature* (Ithaca: Cornell University Press, 2001).

<sup>16</sup> Frank G. Carpenter, “Resources of the Philippines,” *Omaha Bee*, February 14, 1900, FHS USFS Newspaper Clipping File Box 29, Folder “Philippines Forests and Forestry II.”

<sup>17</sup> For the category of “sublime nature” see Roderick Nash, *Wilderness and the American Mind* (New Haven: Yale University Press, 1967), 45-46.

<sup>18</sup> Carpenter, “Resources.”

Philippine forests within the myth of tropical abundance and promoted the vast “virgin” forests as the greatest field for investment in the islands.

During the late nineteenth century tropical forests in particular elicited much attention among Americans because they were visually stunning, rich in biodiversity, and held valuable commodities not available in North American or European forests. Nancy Stepan argues that “fertility and superabundance” became the tropic’s chief characteristics largely because of Alexander von Humboldt’s work in the early 1800s.<sup>19</sup> Humboldt’s scientific examinations showed tropical forests to be more than spectacles of biodiversity; he documented biodiversity as scientific data and facts. His empiricism showed European and later American policymakers, academics, consumers, and others that tropical nature existed as a storehouse of exotic flora and fauna.<sup>20</sup> And, along with the tropics’ scientific wonders, Americans and Europeans perceived an array of commodities, though forest products were not foremost in European minds. As Ravi Rajan has noted, most early observers of the tropics coveted the agricultural potential in the region’s fecund soils and generally believed that the forests acted as impediments to profitable agricultural.<sup>21</sup> But by the mid nineteenth century, due in large part to the market that developed for the tropical timber cleared for agriculture and cash crops,

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<sup>19</sup> Stepan, 36.

<sup>20</sup> For more on Humboldt’s influence see Mary Louise Pratt, *Imperial Eyes: Travel Writing and Transculturation* (London: Routledge, 1992), 109-110; Donald Worster, *Nature’s Economy: A History of Ecological Ideas* (Cambridge: Cambridge University Press, 1977), 133-138; Richard Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens, and the Origins of Environmentalism, 1600-1860*. (Cambridge: Cambridge University Press, 1995), 364-366.

<sup>21</sup> Rajan, *Modernizing Nature*, 10; Ventura, 21-22; John Soluri has noted a similar thing about Americans’ notions of tropical soils – that the richness of tropical nature had produced stagnant, unmotivated culture. Soluri, *Banana Cultures: Agriculture, Consumption, and Environmental Change in Honduras and the United States* (Austin: University of Texas Press, 2005), 33-34.

Europeans and Americans began to envision tropical forests, to use Rajan's evocative phrase, "as timber mines."<sup>22</sup>

American naturalists, travelers, and pseudo-scientists soon followed in Humboldt's steps and helped to establish the tropics as a single vast space important to the U.S. scientific and mercantile communities. For example, U.S. Navy Lieutenant William Safford, a contemporary of George Ahern, was an aspiring botanist who traveled to Samoa, Guam, and other tropical destinations crafting a second calling as an American expert on tropical plants.<sup>23</sup> While stationed in Guam he made notes on the similarities of plants from diverse tropical places and learned the Chamorro language spoken by the island's indigenous people. Safford's experiences and his ability to speak to native people in Guam about their use of plants expanded the corpus of American knowledge. In one sense Safford's work helped to nationalize knowledge for the United States, a latecomer to the world of tropical colonization, investment, and study. Though European and American scientists often shared the colonial knowledge that they gathered, knowledge gained from tropical excursions also stoked national pride. Safford and other plant enthusiasts' works helped establish the United States as an intellectual force within the global community of tropical botanists and tropical colonizers.<sup>24</sup>

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<sup>22</sup> Rajan, 10; Pinchot also used this metaphor in critiquing how Americans had imagined their forests "not as a farm on which to grow crops but as a mine whose useful product was to be gathered once and for all." Pinchot in the foreword to George P. Ahern, *Deforested America* (Washington D.C.: GPO, 1928), 5.

<sup>23</sup> Ahern cites Safford as an expert on tropical plants in *Important Philippine Woods* (Manila: n.p., 1901); also see Greg Bankoff, "First Impressions: Diarists, Scientists, Imperialists, and the Management of the Environment in the American Pacific, 1899-1902," *The Journal of the Pacific* Vol. 44, No. 3, (December, 2009, 261-280; Robert F. Rogers, *Destiny's Landfall: A History of Guam* (Honolulu: University of Hawai'i Press, 1995), 117-123.

<sup>24</sup> Ventura, 18-19.

But in another sense Safford's work and the field of inquiry that he represented – tropical botany – portrayed the tropics as a single knowable and usable space. While Safford himself remained dedicated to scientific inquiry largely for the pleasure of expanding American knowledge of the tropics, the knowledge that he produced also served scientific and commercial interests. His work helped U.S. investors imagine that two plants thousands of miles from one another could contain a recognizable market value. And though taxonomies were intrinsic to botany, botanists also understood botanical relationships through observations. The process of likening one plant to another for the sake of classification also served investors who looked for plants similar to the ones they already knew had value in the marketplace. Philippine forests, therefore, suffered from being late to the world of scientific classification and commodification. Instead of molave (*Vitex parviflora*) or narra (*Pterocarpus indicus*) becoming famous tropical commodities, teak and mahogany were the woods to which all other tropical woods were compared. In the bureau's early compilation, *Important Philippine Woods* (1901), Ahern used Safford's expertise to connect the mostly unknown Philippine woods to the known tropical flora across the globe. For example, in Ahern's description of the highly coveted molave tree he quoted Safford:

The Molave was referred by Naves to the *Vitex altissima* of Linneus, and by Schauer to *V. timoriensis* Walp.; but on comparison with specimens in the Kew herbarium, it was found to be identical with *Vitex littoralis*, the 'Puriri' of New Zealand, sometimes called 'New Zealand Teak,' the timber of which has long been known commercially and highly valued for its endurance under water.<sup>25</sup>

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<sup>25</sup> George P. Ahern, *Important Philippine Woods* (Manila: Bureau of Printing, 1901), 73.

Through these kinds of comparisons, individuals like Ahern and Safford made the Philippine forests something other than *terra incognita*; they remade them into forests filled with species that consumers would recognize as valuable. Safford, and others like him, helped to establish the tropics as a knowable space with certain geophysical and biophysical characteristics that Americans could recognize as scientific fact.

As timber capitalists and interested Americans read early reports and listened to rumors from the Philippines, they conjured a familiarity with the islands' tropical woods and forest products. Naturalists such as Safford and writers like Carpenter helped to create this familiarity with the Philippines by deploying names that they knew Americans would recognize. Most early reports likened Philippine woods to both tropical and domestic counterparts. Philippine woods compared nearly always favorably to domestic hardwoods such as oak, walnut, and cherry. But even more often writers drew on Americans' familiarity with tropical woods. The *San Jose Mercury* reported that the Philippines' "most valuable trees" consisted of "mahogany, boxwood, ebony, teak, camphorwood, rubber, gutta percha, ylang ylang and others not at all familiar."<sup>26</sup> This list offers the common names of many general types of "tropical" woods and trees, but only obliquely describes the Philippines. Ebony, a well known wood used for inlay, was the only wood that officials considered a valuable Philippine wood and it was "found in limited quantities" according to most authorities.<sup>27</sup> Teak was often cited as a reference point for those interested in Philippine timber. Foreman described Batitinan (*Lagerstraemia batitinan*) thus: "This wood is very much stronger than Teak, and could

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<sup>26</sup> "Forests of the Philippines," *San Jose Mercury*, November 28, 1900, FHS USFS Newspaper Clipping File Box 29, Folder "Philippines Forests and Forestry II."

<sup>27</sup> Ahern, *Important Philippine Woods*, 50-51.

be used to advantage in its place for almost all purposes. It makes a good substitute for Black Walnut in furniture.”<sup>28</sup> Though these comparisons helped Americans identify with their new tropical colony, they also belied Americans’ confusion and disappointment with the largely unknown Philippine woods.

No comparison was more common or more persuasive than the writers’ use of “mahogany” to describe the best tropical hardwoods in the Philippines. During the late nineteenth century, Americans came to know Caribbean mahogany as a beautiful and strong wood, and writers used “mahogany” to familiarize Americans with their new tropical possession in the Pacific.<sup>29</sup> The name “mahogany” took on a life of its own and contained particular resonance in the marketplace. What early observers found when they strolled through Manila’s markets and buildings were numerous hardwoods that were used for furniture, exhibited an attractive appearance when oiled, and adorned colonial structures such as the interior of the Manila Hotel.<sup>30</sup> Carpenter reported on the apparent ubiquity of mahogany:

“There are churches here which have columns and floors and ceilings of mahogany and I see that this same wood forms most of the timbers in the barges and boats in the Pasig river, boats an hundred and more feet long being made from it. The churches are floored with it and it is in fact as common as pine in the United States.”<sup>31</sup>

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<sup>28</sup> Foreman, *The Philippine Islands*, 313.

<sup>29</sup> Tucker, *Insatiable Appetite*, 188.

<sup>30</sup> N.A., “A Relic of Old Manila,” *The Forester* (September, 1899), 117.

<sup>31</sup> Carpenter, “Resources of the Philippines.”

The *New York Railroad Gazette* told its readers of “great forests of mahogany” wherein “there are practically no operations” and where “some one is going to get rich...as soon as he takes to cut and sell this wood.”<sup>32</sup> While forestry officials tended to employ trees’ scientific names, newspapers, writers, and industry promoters commonly cited “mahogany” as their comparison of choice. Foreman claimed that narra “is the Mahogany of the Philippines” while others stated that red and white lauan (family *Dipterocarp*, genus *Shorea*) as well as tanguile (*Dipterocarpus Shorea polyspermus*) were the species best known as “Philippine mahogany.”<sup>33</sup> Scientific foresters admitted that no true mahogany existed in the Philippines and American lumber dealers who sold “true” mahogany successfully petitioned the Federal Trade Commission to end the use of the term in 1921. Nevertheless, the name was essential to American purveyors of Philippine woods. “Philippine mahogany” retained a corps of defenders and the misnomer persists to this day.<sup>34</sup> By describing Philippine woods as mahogany or similar to mahogany, early reports allowed readers to set Philippine forests in the tropics and imbue the woods with value in U.S. markets.<sup>35</sup>

By 1900, U.S. imperialists and journalists produced an exciting description of the Philippine forests that resembled the boosterism of the American West more than the facts on the ground. American imperial imaginings had always held that Americans’

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<sup>32</sup> “The Timber of the Philippines,” *Railroad Gazette* (New York, N.Y.) February 9, 1901, FHS USFS Newspaper Clipping File Box 29, Folder “Philippines Forests and Forestry.”

<sup>33</sup> Lamb, *Mahogany*, 9; Foreman, *The Philippine Islands*, 2<sup>nd</sup> ed., 316.

<sup>34</sup> “Case Soon to Be Settled on Name ‘Philippine Mahogany’,” *Manila Daily Bulletin* (October 31, 1930), FHS USFS Newspaper Clipping File Box 29, Folder “Philippines Forests and Forestry.” A number of current websites also attempt to clarify the issue. For example, see <http://www.wood-database.com/lumber-identification/hardwoods/philippine-mahogany/>.

<sup>35</sup> For a brief discussion of the term “mahogany” and “cedar” as general terms for many species see John Gifford, “Forest Conditions of Cuba,” *The Forester* (May, 1900), Vol. VI, No. 5 (Washington D.C., American Forestry Association), 98.



superiority was made manifest by their ability to use resources for greater purposes than those whom they colonized, and the portrayal of Philippine woods as a great source of well known valuable yet exotic species helped to justify U.S. colonialism. By the time that Ahern received orders to organize the Philippine Bureau of Forestry, expectations for the region's forests had preceded him. However, both Ahern's perspective and the forests that he found betrayed the myth of tropical abundance. Though many rumors circulated about the wealth in products, Ahern set about examining the contents of the Philippine forests from the perspective of scientific forestry.

### **The Problem of Biodiversity: Over-Abundance**

Ahern's initial survey of the relevant texts and archives covering the Philippine forests appeared to confirm, at least in part, Americans' sense of "tropical abundance." Ahern's first report to the Philippine Commission contained three figures that, once released to the press, corroborated the Philippines' purported forest wealth.<sup>36</sup> First, Ahern claimed that "the public forest lands comprise from one-fourth to possibly one-half of the area of the Philippine islands, viz.: from twenty to forty million acres."<sup>37</sup> The estimation "40 million acres" was reprinted perhaps more than any other statistic during the Bureau's first two years and gave American readers and policymakers an impressive

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<sup>36</sup> In the Forest History Society's USFS Archives is a Newspaper Clipping File (Box 29) that includes two folders "Philippine Forests and Forestry I & II." These folders contain numerous clippings from an array of newspapers from across the United States. Dozens of examples exist wherein Ahern's first report of 1900 and his second from 1901 are repeated verbatim. The following is one typical example of how the first report was reprinted in the press: "Philippine Forests," *Statesman* Boise, ID (December 30, 1900).

<sup>37</sup> *Report*, (1900), 4.

figure to ponder.<sup>38</sup> Second, by Ahern's count, "396 tree species" grew in the islands and he claimed that "fifty more [are] growing in these Islands[sic], and each week we learn of still other species. It is safe to state that the number of tree species found in these Islands will be nearer 500 than 450."<sup>39</sup> In his next report in May of 1901 the number of known species jumped to 665, and by 1911 when, due to reorganization and a lack of funding, the bureau stopped investigating new species the number was estimated to be about 2,500 tree species.<sup>40</sup> Third, Ahern's descriptions of tree heights and diameters recalled the largest American trees. There were "trees more than 150 feet in height, and with trunks clear of branches for eighty feet, and more than four feet in diameter."<sup>41</sup> From a forester's point of view, trees of such enormous proportions signaled overgrown and "decadent" forests. Trees of advanced size and age regularly contained numerous defects such as rot, insect or fire scarring, and other damages to trees' merchantable wood. Ahern deployed these estimates however, believing that they would entice logging companies. He reassured both policymakers that the bureau was acting to both responsibly gather information and promote capitalist investments asserting, "From the above it is evident that there is a very large area of very valuable public forest land in these Islands," and that "It will be the aim of this Bureau to collect all data of interest connected with our

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<sup>38</sup> In publications such as *The Forester* the figure indicated the potential good that American foresters could do with proper management, while in U.S. newspapers the figure was used to indicate the extent of potentially available forest resources existed for exploitation.

<sup>39</sup> *Report*, (1900), 5.

<sup>40</sup> *Report*, (1901), 8; H.N. Whitford, *The Forests of the Philippines, Part 1* (Manila: Bureau of Printing, 1911), 9-10.

<sup>41</sup> *Report* (1900), 4.

forests, specimens of woods will be added to those now on hand, and their uses and beauty shown as far as practicable.”<sup>42</sup>

However, as the Americans examined the forests more closely, they found that the composition and character of the Philippine forests to be very different than they had imagined. Even disregarding the absence of teak and mahogany forests, the forests did not conform to Americans’ sense of a value. Ahern reported:

“There are no pure stands of any one tree species; dozens of varieties grow in each forest, but rarely more than three or four trees of one variety found grouped together, so that any lumberman looking for a shipment of any one species would find it impossible to cut that and no other, but would be obliged to procure the same by purchase from men operating in different sections.”<sup>43</sup>

In the United States, the American lumber industry had evolved through the exploitation of forests that tended to produce more homogenous stands of timber. Of course, even American forests did not contain only single-species stands, but rather stands in which a single or few valuable species dominated the overall character and population of the forest. Eastern white pine (*Pinus strobus*) forests also contained a variety of hardwoods. The southeastern United States produced great pine forests of mixed-species, but Yellow pine (*Pinus palustris*) was the most important in the market for construction lumber, turpentine, tar, and other products and so dominated foresters and loggers’ understanding of the forests.<sup>44</sup> Therefore, it fell to the Bureau of Forestry to make Philippine forests

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<sup>42</sup> *Report* (1900), 8.

<sup>43</sup> *Ibid.*, 7; “The Philippine Forests,” *Eagle* Brooklyn, NY (November 26, 1900), FHS USFS Newspaper Clipping File Box 28, Folder “Philippines Forests and Forestry.”

<sup>44</sup> Charles S. Sargent, *The Woods of the United States*, (New York: D. Appleton and Company, 1885), 125-126.

legible to American markets by identifying and cataloging the many species and their uses. Once Ahern observed that the forests presented a greater obstacle than he had anticipated, he recognized the need for complete examinations and investigations of the islands' flora. He reported, "During the first year or two the effects of the Bureau will be concentrated on learning what we have in the way of forest products, the uses of woods, and looking up markets."<sup>45</sup> When Ahern and the bureau began to research and identify Philippine plants and markets, they followed in the footsteps of American forestry advocates in the United States who had built U.S. forestry upon timber investigations, tests, and experiments.

When Bernhard Fernow succeeded Nathaniel Eggleston as Chief Forester in 1886, he brought a new focus to professional forestry. Fernow thought the government should both conduct tests and experiments that aided forest users *and* manage lands. However, while the reservation of forests and the authority of federal foresters to manage national reserves remained swept up in a political tempest, Fernow championed timber testing and other aids to the timber and lumber industries.<sup>46</sup> According to Charles Nelson's history of timber testing in the United States, Fernow believed that if lumber producers were shown scientific conservation methods, they would surely use them because such methods improved their bottom line.<sup>47</sup> Fernow stated that Americans were "lacking the exact knowledge of the rate of growth of different timbers at different ages under different conditions, upon which alone the financial questions of forestry can be discussed," and

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<sup>45</sup> George P. Ahern quoted in John Gifford, "Outlook for Forestry in the Philippines," *The Forester* Vol. VII, No. 9, 1901 (Washington D.C.: American Forestry Association), 212.

<sup>46</sup> Andrew Denny Rodgers, *Bernhard Eduard Fernow: A Story of North American Forestry* (Princeton, N.J.: Princeton University Press, 1951), 176-178.

<sup>47</sup> Nelson, 23.

initiated what he called “timber physics:” timber tests to determine the properties and characteristics of American woods.<sup>48</sup> Throughout Fernow’s tenure as Chief Forester (1886-1898) he championed “timber physics” as the best method to understand American woods and make recommendations about their preservation and use.<sup>49</sup>

During the 1890s, Fernow oversaw the testing and experimentation on many commercial forest products from timber to turpentine as the best way to make forestry relevant and successful in the United States. As early as 1886, he planned tests on the preservation of woods to demonstrate to wood users that through science they could choose the best woods for fence posts, farm implements, and much else. By 1892, testing had expanded to laboratories across the United States, mostly at universities, and early wood scientists conducted tests and compiled statistics that they published and distributed throughout the forest products industries. The Division of Forestry worked together with government chemists and biologists to comment upon a number of issues such as whether bleeding trees of their resins, for the making of turpentine, changed the overall qualities of the wood; how to use woods’ tannins more efficiently in tanning leather; and how to prevent fungi from attacking green lumber in the South, among much else. In 1895, Filibert Roth, the Special Agent in Charge of Timber Physics, published *Timber: An Elementary Discussion of the Characteristics and Properties of Wood*, “which,” Fernow claimed in the work’s introduction, “will help the wood consumer in the choice of his material and in determining whether, and if so why, a given stick will answer his

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<sup>48</sup> Ibid., 20; Rodgers, 177-178; *Report of the Commissioner of Agriculture* (Washington D.C.: GPO, 1887), 36.

<sup>49</sup> Gifford Pinchot, *Breaking New Ground* (Washington D.C.: Island Press, 1974[1947]), 133.

purpose.”<sup>50</sup> But even as Fernow initiated tests and experiments in an effort to stimulate industry recognition, he grew antagonistic towards the entrenched American distrust of forestry. Though some industries began to realize the usefulness of Fernow’s work, “timber physics” was defunded in 1896 because, Fernow’s critics argued, “it was not germane to the subject of the division.”<sup>51</sup> Aggravated by his critics’ accusations that his timber physics was no more than “pure science” masquerading as practical work, he retired from government in 1898 to become Dean of the New York State College of Forestry at Cornell University.

When Gifford Pinchot was appointed the new Chief Forester in 1898, he de-emphasized tests on physics, chemistry, and biology, but instead focused on the ways that forestry could turn a profit.<sup>52</sup> In 1899, he initiated examinations of loblolly pine in North Carolina and Douglas fir in Washington State “to determine their rate of growth and to ascertain their special qualities in forestry.”<sup>53</sup> He claimed to have reorganized the Division of Forestry for the “introduction in the United States of practical and paying forestry among lumbermen, on a large scale...”<sup>54</sup> Pinchot recorded immediate success stating that the “redwood lumbermen of San Francisco” had “voted to subscribe \$1,000, of which \$550 is already in-hand, and have offered free transportation over their roads and free subsistence in their camps to the agents of the Division...[to]...begin work on

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<sup>50</sup> B.E. Fernow in Filibert Roth, *Timber: An Elementary Discussion of the Characteristics and Properties of Wood* (Washington D.C.: GPO, 1895), 6.

<sup>51</sup> Nelson, 28.

<sup>52</sup> Brian Balogh, “Scientific Forestry and the Roots of the Modern American State: Gifford Pinchot’s Path to Progressive Reform,” *Environmental History* Vol. 7, No. 2 (April, 2002).

<sup>53</sup> *Report of the Forester* (Washington D.C.: GPO, 1899), 96.

<sup>54</sup> *Ibid.*, 93; Pinchot, *Breaking New Ground*, 134.

the growth and reproduction of redwood.”<sup>55</sup> But even as Pinchot presented evidence that practical forestry work was taking hold, the U.S. Division of Forestry yet received meager federal funding and the forest reserves remained under the administration of the General Land Office. Pinchot therefore proceeded with the only course open to promote scientific forestry in American society and politics; he highlighted the ways that federal foresters could aid the U.S. forest products industries. Without the right to manage the federal forests, but with the determination to prove the necessity of federal foresters to do so, Pinchot worked toward befriending the forest products industries through ongoing timber tests, experiments, and practical studies of timber and other forest products.

By 1900, when George Ahern began organizing the Philippine Bureau of Forestry, American forestry advocates had established a tradition of conducting tests and experiments to prove forestry’s worth. Whether or not Pinchot’s brand of forestry was more practical than Fernow’s, American forestry had nonetheless been built upon botanical identification and “timber physics” as much as on the planting and reproduction of forests. As Ahern began to organize the Bureau, he faced the difficult tasks of initiating American-styled forestry in forests that were unlike American forests, and creating a commercial impulse to invest in Philippine woods. U.S. forestry in the Philippines was steeped not just in regulation and administration, but also in the tradition of scientific inquiry and product development.

Just as forestry advocacy did in the United States, the Philippine Bureau of Forestry trailed in the wake of a thriving lumber industry, and much of their initial knowledge was drawn from the market. The bureau staff collected woods from Manila’s

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<sup>55</sup> *Report of the Forester* (1899), 93.

lumber market along the Pasig River where sawyers and lumber dealers carried on the islands' main lumber business.<sup>56</sup> Ahern wrote, "A careful study of the desirable species is of first importance," and the bureau worked at matching actual woods in the market to the descriptions found in *The Philippine Islands* and the Spanish records. The forestry staff attempted to identify the many species in the forests and in the market, determine their usefulness, and understand how to stimulate the reproduction of the most valuable species. Ahern argued that after such determinations were made, "the state and the lumbermen should work together" to clear away the undesirable species and permit the growth of the valuable woods. This was the cooperation that American foresters had hoped for in the United States. Foresters would provide information on species and help with problems such as efficient use of forest products, if the lumber industry would take up the mantle of forestry by selectively logging the woods. Ahern explained, "Lumbermen must be willing to take dozens of varieties of tree species, these species may not be desired by the lumberman, but the forester must get rid of them."<sup>57</sup> Even before the Bureau had identified much of the islands' biodiversity, it planned the reproduction of the species that Foreman, the market, and the *Inspeccion de Montes* had declared were most valuable at the expense of the less valuable woods.

As the bureau staff researched Philippine woods they found a litany of Spanish investigations that revealed the contingent origins of the value found in Philippine woods. The archives recorded that early colonial agents and friars collected information on forest products by observing local indigenous uses. Father Juan Jose Delgado, for example, was

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<sup>56</sup> John Burzynski, "The Timber Trade and the Growth of Manila, 1864-1881," *Philippine Studies* Vol. 50, No. 2, (2002), 176-177.

<sup>57</sup> *Report* (1900), 7-8.



attuned to the colonial demand for forest products and he began to apply native uses of forest products to Spanish needs in the colony and in the metropole during the mid eighteenth century. He reported that native people used the tree acle (*Albizzia acle*) in the vicinity of Manila for the uprights of houses because the wood resisted the dangers of being buried in the ground such as termites and rot.<sup>58</sup> Quotidian information such as this was of great value to Spanish colonials who regularly built structures out of woods that were susceptible to decay. Father Manuel Blanco came to the Philippines in 1805 and was an amateur botanist who enjoyed the taxonomy in science. He learned Tagalog and collected Philippine plant names into lists where the Tagalog, (and sometimes Visayan, Ilocano, and other local languages) and Linnean designations appeared side by side. By the late Spanish colonial period, when Sebastian Vidal y Soler was appointed *Inspector General de Montes*, Philippine forest products had become itemized, catalogued, and well-ordered, relative to Spain's limited reach into the islands' interiors. Vidal traveled the islands, collected and published his own research, supervised timber testing in Manila, and accompanied Philippine products to both the 1876 Philadelphia Exposition and the 1887 Exposition of Philippine Products in Madrid.<sup>59</sup> The Spanish knowledge of the forests came both from mimicking indigenous uses and applying European scientific traditions. Regardless of the Americans' criticisms of the Spanish, the species that had been most important to the Spanish became most important to the Americans.<sup>60</sup> Americans did not so much replace the antiquated Spanish colonial practices, as built upon them.

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<sup>58</sup> Ahern, *Important Philippine Woods*, 16.

<sup>59</sup> Ibid., 101-102; Bankoff, "A Month in the Life," 23-28.

<sup>60</sup> Bankoff, "Breaking New Ground?" 375.

While the Bureau of Forestry compiled information from the archives of the *Inspeccion de Montes*, Foreman's *The Philippine Islands* provided Ahern and the Philippine Commission with a list of woods that purported to represent the islands' most valuable products. Foreman's information too originated in the market. His principal informant was Henry G. Brown, also an Englishman, who owned a logging operation and steam sawmill in Tayabas between 1888 and 1891.<sup>61</sup> Tayabas (now the provinces of Aurora and Quezon) in eastern and southern Luzon remained one of the most important lumber producing regions throughout the late Spanish colonial period, and Brown acquired a reputation for being a shrewd and informed businessman as well as an authority on Philippine timber. His status as one of the few successful Anglo operators no doubt endeared him to American and English interests. The information in *The Philippine Islands* therefore spoke to commercial interests and practical uses for woods and other forest products.

Foreman arranged an alphabetical list of timbers that addressed each wood's biophysical properties, its practical application in furniture, ship building, housing, railroad ties, perfumes, or other uses, and any additional information that participants in the industry would care to know such as defects, susceptibility to pests, additional names, and how the woods compared to other, better known woods. During the Philippine (Schurman) Commission's interview of Thomas Collins, they had the list before them and asked Collins about each tree in turn.<sup>62</sup> Below is a brief excerpt:

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<sup>61</sup> Foreman, *The Philippine Islands* 2<sup>nd</sup> ed., 312n.1; Ahern, *Important Philippine Woods*, 102.

<sup>62</sup> Testimony of Thomas Collins, *Report of the Philippine Commission* (1899), 90.

Q. Tangile? – A. Used for building cascoes or bancas.<sup>63</sup>

Q. Teca? – A. Well, I have seen what they call taka here, but I have never had anything to do with it?

Q. They haven't the taka wood in China? – A. In China – they haven't it there, they have to import it from other places.

Q. Tindalo? – A. A very fine wood, dark-red wood.

Q. What is it used for? – A. It can be used for furniture, but they use it for general construction, too.

Q. Yecal? – A. A very good wood for construction.

Q. Anusep? A. I don't know the wood.

Q. Aranaga? – A. A very fine wood used for construction.

As colonial administrators and reporters researched the islands' timber, this type of list became ubiquitous in newspapers, magazines, and trade journals. In January 1899, an article in the *New York Tribune* read like an annotated grocery list of woods available in Manila's marketplaces and was drawn almost entirely from *The Philippine Islands*. It paraphrased "The best known of the Philippine woods is molave. It is a heavy brown wood, almost as hard as steel" and "Ebony has been found in quantities..."<sup>64</sup> And, in February of 1901 *The Forester* published an article by F.F. Hilder titled "Philippine Forest Products" in which four and a half of the article's seven pages were dedicated to the most current list of woods, their characteristics, uses, and locations.<sup>65</sup> By 1901, English speakers, whether interested in forestry or lumber, science or commerce knew

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<sup>63</sup> *Cascoes* are wide, shallow boats whereas *bancas* are long, thin canoe-like boats.

<sup>64</sup> "Philippine Woods," *The New York Tribune in Current Literature (1888-1912)* Vol. XXV, No. 1; (APS Online), 31.

<sup>65</sup> F.F. Hilder, "Philippine Forest Products," *The Forester* Vol. VII, No. 2 (1901), 27-33.

Philippine woods first as a list of common names (often Tagalog) of individual species and the corresponding uses of each.

Once the Forestry staff had identified the species and products that were available in Manila's markets, by using the Spanish documents, Foreman's work, and local informants, they began to advertise the forest products in publications and expositions. Ahern focused the bureau's attention on "finding a market for the several hundred varieties of native wood found within a comparatively small area in almost any part of these islands."<sup>66</sup> Locating markets meant enticing buyers with both physical samples of woods as well as information on the woods' uses. If the bureau could successfully advertise Philippine woods and create a market for the many unknown species, then, Ahern presumed, logging companies would invest the necessary capital to exploit the islands' forests thereby providing the bureau with both legitimacy and work to perform. The bureau staff found woods in Manila's markets, created samples for exhibitions, and prepared a publication for wide dispersal.

*Important Philippine Woods* was a work that contained descriptions and color prints of fifty of the most valuable trees in the islands and could be distributed among lumber dealers in the Philippines, United States, England, and elsewhere. According to Ahern, the book was a "compilation of notes...undertaken after numerous inquiries had been made at this office for information concerning Philippine forests, characteristics of the leading timber tree species, value of same, present and future markets, method of procedure to secure licenses to cut timber, etc."<sup>67</sup> The work quoted Delgado, Blanco,

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<sup>66</sup> *Report* (1901), 9.

<sup>67</sup> Ahern, Preface to *Important Philippine Woods*.

Vidal, Foreman, Safford and others as experts who testified as to the trees' qualities and uses. *Important Philippine Woods* acted as an information clearinghouse for consumers and a badge of authority for the bureau. Though the work contained the most common and most valuable woods in Manila's markets, the bureau continued to promote the so-called furniture, cabinet and veneer woods as the most promising for the establishment of an export market.

The bureau also exhibited Philippine forest products in the United States. In 1901, Ahern reported that the bureau staff "selected, polished, labeled, and packed," one hundred different species "for shipment to the furniture makers' convention at Grand Rapids, Michigan, in June of this year, and also for the exhibition at the Pan-American Exposition at Buffalo."<sup>68</sup> For an export market, the most remarkable Philippine woods during the first years of American colonization were the furniture, cabinet, and veneer woods. Among the most impressive were molave, narra, ebano (*Maba buxifolia*), and tindalo (*Pahudia rhomboidea*). The bureau staff hoped that *Important Philippine Woods* and the exhibition materials would "divert our furniture makers from Central and South America to the Philippines." Because of the islands' colonial status, wood could be imported more cheaply into the United States than from the Caribbean and Ahern was confident that Philippine lumber "would find a ready market with our furniture makers."<sup>69</sup> During his 1902 trip to the Islands, Gifford Pinchot inspected the forestry work and the forest products markets. He told American newspapers that among the 700 species known to the Bureau of Forestry, "Very many of the timbers are fine cabinet

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<sup>68</sup> *Report*, (1901), 9-10.

<sup>69</sup> *Report*, (1901), 10.

woods.”<sup>70</sup> Pinchot’s endorsement of the most attractive of Philippine timbers helped promote the Philippine forests as an exotic, tropical arena for resource extraction and U.S. consumption. But in comparison to market needs for construction timbers in the United States, the Philippines, China, and elsewhere, these attractive woods made up a small portion of the annual Philippine forest cut.

What was needed was basic construction timber, and these demands were being driven higher by industrialization and colonialism. Cities, railways, and industrial extractive industries such as mining all required large amounts of strong, light-weight construction timbers. Some Americans had hoped that Philippine construction lumber would ease the growing fears of timber famine in the United States, but the reality was that the Philippines did not come close to producing all of the construction lumber that Filipinos, the U.S. Army, and American colonial officials required in the archipelago.<sup>71</sup> Because of the war and the U.S. government’s desire to showcase its benevolence by building modern infrastructure such as hospitals, railroads, and frame houses, construction wood remained in short supply and in high demand.<sup>72</sup> The need for construction lumber would bring U.S. foresters’ attention to a family of trees that had previously overlooked: the Dipterocarps.

Spanish authorities had determined that some Philippine woods made good construction timbers. Ipil (*Intsia bijuga*) for example, commanded one of the highest prices in the market because it was used for railroad ties and heavy construction beams.

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<sup>70</sup> “Forests of the Philippines,” *Montpelier Enterprise* Feb 19, 1903. FHS USFS Newspaper Clipping File Box 29 Folder “Philippines Forests and Forestry II.”

<sup>71</sup> “Philippine Timber Lands,” *Examiner* Lancaster, PA December 4, 1900. FHS USFS Newspaper Clipping File Box 29 Folder “Philippine Forests and Forestry II.”

<sup>72</sup> Kramer, 309-10.

But species from the *Dipterocarpaceae* family such as yacal (*Hopea plagata*), tanguile (*Shorea polysperma*), lauan,<sup>73</sup> guijo (*Shorea guiso*), and apitong (*Dipterocarpus grandiflorus*), among others, were some of the most common construction woods available in the market. However, Ahern claimed that the qualities of many of the native woods were unknown and could not attract American investors. Moreover, Spanish authorities had determined that most of the Dipterocarp woods, except yacal, were “inferior” for construction in comparison to scarcer woods such as molave, mancono (*Xanthostemon verdugonianus*), and ipil. In addition to their relative scarcity, the “superior” construction woods had also proved stronger and more durable in Spanish timber tests prior to 1898. Therefore, even though woodcutters brought usable construction timbers from the Dipterocarp family to market, Ahern continued to imagine these as inferior to other non-Dipterocarp woods.

Nevertheless, the colonial administration demanded construction lumber. There were, however, few operations in the islands that could cut, ship, and mill the amounts of construction lumber and railroad ties that the market and the colonial administration required. For this reason, and also for the purpose of bringing American lumber across the Pacific, the Philippines imported large amounts of Douglas fir and redwood from the U.S. West Coast.<sup>74</sup> The Philippines imported about 7,992,000 Board Feet (b.f.) of boards, logs, and rough lumber in 1902, and by 1907 the figure had climbed to over 13 million

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<sup>73</sup> Lauan was a common name for a variety of species in the *Dipterocarpaceae* family. In this chapter (p.47) I will discuss the significance of the term lauan as well as the many species that were classified as “lauans.”

<sup>74</sup> Kramer, 309.

b.f. from the United States alone.<sup>75</sup> Lumber was also imported from British East India (Borneo), Germany, and elsewhere.<sup>76</sup> As American construction woods proved to be susceptible the ubiquitous Philippine “white ants” or termites (*Coptotermes vastator*), however the Bureau of Forestry sought to reduce the amount of U.S. lumber imported and to establish a reliable domestic market through research and timber tests.

In order to spur the domestic market for construction and other timber, Ahern acquired modern timber testing equipment from the United States and hired Samuel. J. Neely to run it. Neely had worked for the Bureau of Agriculture’s timber testing lab in Washington D.C., but was furloughed when the government backed away from tests that did not appear to have practical application. He brought U.S. methods with him to Manila, and installed the machines into the Bureau of Forestry’s new timber-testing laboratory and in an old market building along *Calle Arroceros*. Figure 3.1 shows the interior of the testing lab and workshop. The *Calle Arroceros* lab was as close a representation of a U.S. timber testing lab as could be constructed in Manila, and the lab was a point of pride for the bureau. Ahern reported that it was spacious at “90 feet by 30 feet,” “lighted by twenty-odd windows and doors and well ventilated.” It was also

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<sup>75</sup> For the 1902 data see *Report* (1902), 523; for 1907 see *Report* (1907), 28. The custom during the first years of American colonization was to use the Spanish cubic foot, which was .91 of the English cubic foot, for measuring timber and lumber. After 1904 when the Philippine Commission adopted metric rules and measures the standard changed to cubic meters, but cubic feet continued to be regularly employed. The U.S. standard was board feet (b.f.). A Board Foot measures 12 inches by 12 inches by 1 inch. But, because the numbers of B.F. quickly became too long and cumbersome, forestry and lumber officials also used “per 1,000 B.M.” (board measure) that simply meant 1,000 b.f. The statistic above is my conversion from Spanish cubic feet to board feet.

<sup>76</sup> *Report* (1902), 523.





Figure 3.1 Interior of the timber-testing workshop. Note the large round tabletop leaning against a pillar and the blocks of sample woods on display near the windows. The workshop served as a crucial point of state-capital cooperation as government experts helped to develop new products for the marketplace.

“very conveniently situated on the Pasig River, whence, by means of a short canal, logs can be brought on *cascoes* to the doors of the laboratory.”<sup>77</sup> The shores of the Pasig had long been home to Manila’s lumber business, and the bureau testing lab was a physical manifestation of the cooperative effort between the colonial government and the existing lumber markets.

The laboratory compared the strength, durability, and other qualities of Philippines woods to American woods in order to make the Philippine timbers appear less exotic for U.S. investors. The laboratory staff tested woods at “200,000 pounds’ capacity” and put them through “tension, compression, shearing, and cross-bending” tests. Though the staff compared Philippine and American woods, the comparisons were

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<sup>77</sup> Plates from Report (1902).

often random; their real purpose was to indicate sameness and familiarity. The bureau's experts did not yet possess enough information about the Philippine forests or woods to know which comparisons would be the most helpful. Rather, they chose some of the finer woods to compare to American oaks, hickories, pines, and ashes instead of the Douglas fir and redwood that were being imported.<sup>78</sup> Moreover, as American timber testers had discovered in the U.S. labs, each species of wood required hundreds of individual tests because of the variations inherent in trees' moisture content, age, growth location, and other factors. Furthermore, the bureau staff was only able to conduct limited numbers of examinations each year due to a shortage of woods and personnel. The timber tests therefore often confirmed what the bureau staff already knew from the Spanish records.

Though local people had determined long ago which woods resisted pests and could be utilized for construction, the testing lab allowed the bureau scientists to reproduce local knowledge as technical expertise. The lab's most important challenge when conducting experiments on construction timber was to determine which woods were most and least susceptible to two particular pests: the "white ants," the aforementioned *C. vastador*, and the "seaworm" (*Teredo navalis*). In developing a domestic market for construction timber, defeating these pests was paramount. The testing lab used a new machine, "patented in the United States and not yet put upon the market" that pressure saturated woods by filling the pores with "any kind of preservative fluid" in order to enhance the woods' resistance to decay and pests. However, after the laboratory workers pressure treated the woods they found it difficult to guide the termites to the treated wood and observe their actions within the confines of the laboratory. The

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<sup>78</sup> *Report* (1903), 299.

timber testers were forced to admit, ironically, “the only practicable method is to place pieces of the wood to be tested where the white ant and other insects have free access to them and wait for results.”<sup>79</sup> In other words, only by placing the samples outdoors, outside of the laboratory, was it possible to assess the work. The timber testing lab operated along similar lines of Fernow’s “timber physics,” and like the critics who argued that such scientific studies were “not germane,” the termites suggested that the laboratory was not advancing the work of forestry. After the laboratory proved insufficient, the bureau moved durability testing outdoors to the newly established Lamao Forest Reserve in Bataan province after July 1904.<sup>80</sup>

In addition to the laboratory’s timber tests, the bureau employed experts to collect and organize the Philippines’ botanical knowledge. J.J. Eaton was a wood scientist who conducted microscopic examinations of the Philippine woods to revise botanical taxonomies. The botanist, Elmer Merrill worked for both the Bureau of Forestry and the Bureau of Agriculture collecting plant specimens in the herbarium in Manila. By 1903, the collection contained over 5,000 specimens, including some from foreign countries. Also by this time, the market saw about seven hundred varieties of timber and the bureau had positively identified about three hundred of them. During 1902, the colonial administration sent Merrill to Java to the famous Botanical Gardens at Buitenzorg where he studied the extensive collections that included many Philippine plants. Upon his return he worked on the “Dictionary of the Native Plant Names of the Philippines” for the

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<sup>79</sup> *Report* (1902) 455-456.

<sup>80</sup> The Lamao Forest Reserve was established in Bataan on July 26, 1904. It was the first forest reserve and contained a nursery, testing grounds, and sylvicultural station.

bureau.<sup>81</sup> Eaton conducted microscopic tests and took photographs of the cellular structure of woods for the purpose of positive identification. Because so many of the Philippine timber species looked identical in the market, Ahern wanted “definitive knowledge” of the woods. Eaton found however, “the methods as used in the United States are not applicable to the Philippines owing to the great hardness of the leading Philippine woods.”<sup>82</sup> Both Merrill’s and Eaton’s botanical work was Ahern’s way of building American knowledge, and Ahern published their findings to demonstrate the bureau’s growing body of knowledge even as the practical application of their work remained undefined.

The woodworking shop within the laboratory however contained a much clearer purpose; it prepared woods and other forest products for experimentation and exhibition. Ahern boasted of the shop’s modern machinery noting that it contained a drying kiln, circular saw, and other mechanized tools. Ahern had recruited T.J Piffard, a cabinet-maker from Rochester, N.Y., to supervise the preparation of woods for expositions, museums, and shipment to wood dealers who wrote to the bureau and requested samples. The woodworkers placed samples along a set of shelves that spanned one end of the *Calle Arroceros* building for buyers to peruse. Beginning in 1902, around the time that Gifford Pinchot visited the islands to examine the bureau’s progress and make recommendations, the workshop was preparing materials for the 1904 Louisiana Purchase Exposition in St Louis. The Buffalo, NY expo in 1901 had come too early for the bureau to fully demonstrate Philippine forest products. But by 1904, Ahern planned to

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<sup>81</sup> Report (1903), 301.

<sup>82</sup> Ibid., 300.

have the bureau in full swing in order to exhibit the bureau's commitment to aiding American lumber interests and implementing scientific forestry in the islands.

Pinchot hoped that the forestry exhibition would showcase the good work that U.S. foresters were doing in the colony as a lesson to those in the United States who yet doubted the usefulness of scientific forestry. The Bureau of Forestry's exhibit at the 1904 St Louis Exposition represented a shining moment for the bureau. Pinchot took a personal interest in the exhibit and helped plan its layout and design. He remarked that the exhibit should be "striking at the expense of completeness," and Pinchot even favored the Philippine display over his own bureau's display. The exhibit should contain "Large logs, large wood specimens, large transparencies, and large pictures" to impress the attendees, he recommended. He also requested "that specimens of manufactured products be accompanied in every possible instance by other specimens illustrating every stage of manufacture from the raw material down, and by large and numerous photographs to complete or supplement the story." Fitting his desire for "large" and "striking" materials, the Bureau supplied a map of the Philippine Islands that was "16 by 13 feet (6 miles to the inch)." Though the Philippine forest products were to be shown with the other exhibits from the Philippines, Pinchot asked that "striking specimens of Philippine products, duplicates if necessary, be placed in the general forest building, with plain notices calling attention to and giving directions for reaching the rest of the exhibit."<sup>83</sup> As Pinchot worked to promote his own bureau, he relied on the beauty of Philippines woods and the hard work of the bureau's experts to demonstrate how U.S. forestry officials promoted forest products.

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<sup>83</sup> *Report* (1903), 324; *Report* (1904), 8; *Report* (1905), 266.

The 1904 exhibit also represented an ironic moment when the Philippine Bureau of Forestry appeared to be at its best in the eyes of American onlookers, while in Manila it suffered from a number of serious problems. The forestry materials were housed in a building constructed “entirely of Philippine woods” that “excited much attention and awakened much interest in our valuable forest resources,” Ahern reported in 1905. The bureau exhibit won ten awards from the Philippine Exposition Board, seven of which were for specific forest product displays.<sup>84</sup> But about the time that Ahern was returning from St Louis, in March of 1905, Henry Graves was finishing his investigations of the Philippine Bureau of Forestry. Graves’s subsequent report to Pinchot highlighted a number of concerns. He observed that the Bureau was “distinctly disorganized” and that morale was generally low among the staff.<sup>85</sup> He claimed that much of the forestry work was useless because “the average forest officer studies only one species at a time” instead of studying the forest communities.<sup>86</sup> Overall, Graves’s comments suggested that the bureau was moving in no clear direction because of Ahern’s unpopular leadership, the lack of trained personnel, and because the real work of forestry had not yet begun. As he stated about the surveys being done within the new Lamao Forest Reserve, “This work is of no great immediate value because the study has no reference to yield, growth, and silvicultural condition.”<sup>87</sup> Although the bureau had built impressive displays to advertise Philippine woods, it made few advances in understanding how Philippine forests reproduce.

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<sup>84</sup> *Report* (1905), 265-266.

<sup>85</sup> Graves, “Confidential Report,” 3.

<sup>86</sup> *Ibid.*, 24.

<sup>87</sup> *Ibid.*, 20.

The events of 1904 and 1905 served as a watershed for the bureau. The bureau's focus on botanical identifications, catalogs, and timber testing had produced a body of knowledge. But that body of knowledge had not generated forest plans, better forestry methods, or a solid foundation for American investments. The bureau had also created impressive advertisements of its various products from timbers to its many NTFPs, such as *bejuco* (rattan) and gutta percha. These had generated some new investments, though not as many as colonial officials had hoped. The American forestry officials had succeeded in laying a foundation for future exhibitions, advertisements, and timber tests, though the second half of the dual mandate – protecting the forests – had been largely ignored. As academic forestry matured in the United States and seeped into the Philippine Bureau of Forestry, Ahern and his staff instituted greater attention to forest plans. More than previously, the bureau attempted to mediate capitalist development and the silvicultural ideals of U.S. forestry.

### **“The Original Mother Type”<sup>88</sup>**

In 1904, the bureau constructed a tax schedule for Philippines timbers showing that the Americans were beginning to shift their attention away from the fine furniture woods onto the abundant construction woods. Since the late Spanish colonial period, tax laws included incentives that encouraged the logging of certain types of forests – the forests that Americans would come to know as Dipterocarp forests. The Spanish tax codes that American adopted labeled furniture woods, such as narra, “superior” and

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<sup>88</sup> Raphael Zon, “Principles Involved in Determining Forest Types,” *Proceedings of the Society of American Foresters* Vol. 1, No. 1 (May, 1905), 182.

others, including many within the Dipterocarp family as “inferior.” In 1904, the tax laws became part of the new Forest Act reproducing the labeling practices of the *Inspeccion de Montes* and strengthening the notions of desirable and less desirable tree species. As part of the U.S. forestry advocates’ attempts to foster state-capital collaboration, Pinchot and Ahern worked with lumber operators in the Philippines to write the 1904 Forest Act. The Forest Act established the value of certain species in law based upon the furniture wood-construction wood dualism. The logging rules promulgated in 1904 were amenable to large capital investors and stimulated a domestic market in construction timber even before the bureau’s scientists and foresters understood silvicultural principles or the ecology of forests in the Philippines.

In 1900, the Bureau of Forestry implemented the Spanish forest tax code, or tariff, which indicated how many centavos per cubic foot that loggers were required to pay the government for timber (Figure 3.2). The *Inspeccion de Montes* had divided the tax

**COST OF LOGGING IN THE PHILIPPINES.**

**A company or individual who has secured a timber license from the forestry bureau pays the following government stumpage per cubic foot, according to the grade of the timber:**

	<b>Centa.</b>
<b>Superior group</b> .....	<b>14</b>
<b>First group</b> .....	<b>10</b>
<b>Second group</b> .....	<b>8</b>
<b>Third group</b> .....	<b>3</b>
<b>Fourth group</b> .....	<b>2</b>
<b>Fifth group</b> .....	<b>1</b>

Figure 3.2 A remnant of Spanish forestry, the tax schedule combined market value with the bureau’s desire to foster the reproduction of certain species.

schedule into groups that reflected the value of species as products in the market.

Delgado, Blanco, and other Spanish colonial agents had built upon native uses of woods



and employed scientific methods and experiments to construct a hierarchy of value. Narra, molave, calantas, tindalo, and other woods were labeled as “superior” because of the value with which consumers imbued them as rare and useful. In addition, the woods’ availability or scarcity added to their high value. When Ahern remarked on the irregularity and infrequency with which some Philippine tree species appeared in the forest, he was commenting on the relative scarcity of the “superior” and “first” group woods. When Americans reported that no pure stands of trees existed in the Philippines, what they meant was that the superior and first group woods did not appear in homogenous stands, but were intermixed with a variety of species. Moreover, the same qualities that made some species difficult to market also imbued them with value. Some woods were particularly heavy or hard, were difficult to remove from the forest, sank in water if they slipped from their rafts, broke saw blades when cut, and were generally regarded as more cumbersome to fell and transport. Yet, it was these qualities that provided value in the marketplace and gave order to the tax schedule.

The woods of the lower groups were “inferior” because of their characteristics relative to the coveted features of the best woods, but were nevertheless put to a variety of uses. Pano ( *Dipterocarpus vernicifluus* ), for example, was a third-group wood “much used in the Visayas, and other places as rafters, uprights, etc., in buildings, and in naval construction for bottoms of vessels and sometimes for bancas,” according to Vidal.<sup>89</sup> While Europeans and Americans labeled some woods as superior woods because they were tropical, exotic products that could not be found in North American forests, the “inferior” woods were often common construction timbers that were easier to acquire.

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<sup>89</sup> Vidal in Ahern, *Important Philippine Woods*, 79.

But the tax schedule also served a silvicultural agenda. Forestry officials wanted to encourage the removal of inferior species in order to open up the forest floor for the reproduction of superior species. State foresters recognized that loggers possessed no incentive to bring low value woods to market when they could realize higher prices from high value woods. Loggers would engage in high-grading, the bureau assumed, which meant disregarding inferior woods or cutting them for access higher value woods, and leaving the inferior woods to rot on the forest floor. In order to encourage the removal of lower group woods, the tax schedule provided a lower taxation rate on the third, fourth, and fifth groups. Because the tax schedule used centavos (cents), the rates appear as easily comparable percentages. The tax rate established a higher percentage of the high value woods and a lower percentage of the low value woods; a large jump in relative proportion is obvious between the second and third groups. Forestry officials assumed that the rates on the third, fourth, and fifth groups would be low enough to generate incentives for the removal of low value woods while still deriving revenue from woodcutters. The most effective way to do so would have been to omit any taxation whatsoever on low value woods while maintaining a tax on high value woods. But this would have been unthinkable to scientific foresters who believed that the state should collect revenue, from all products removed from the forest and bound for market. Therefore, in order to foster the reproduction of superior timber species, the Bureau maintained charges on all merchantable timber, issued fines for timber waste, and placed rangers and fiscal agents in the field to observe logging operations.

The tax incentive suggested that timber companies would realize higher profit margins on the third, fourth, and fifth group woods if the state modified conditions to

permit easier access to the forests. Superior and first group woods commanded higher prices in Manila's markets, but the tax rate meant that if all other factors of transportation and preparation were equal then the profit margin on the third, fourth, and fifth groups was higher. Of course, conditions were seldom equal because some woods were easier to remove from the forest, transport to Manila, Iloilo, or other centers, and prepare for market. Nevertheless, if the state could simplify or streamline conditions, through the building of railways for example, then it would mitigate the costs of removal and transportation of timber, and logging operators would realize the higher profit margins on lower grade woods.

Knowing that large timber operations would log both high and low value woods, the administration imagined the tax as an average tax on all woods brought to market. According to Gifford Pinchot, a desirable average tax rate on timber in the Philippines was about six percent – half of what it was in the United States.<sup>90</sup> The system was similar on federal reserves in the United States where federal officials sought to facilitate the removal of some species by charging a lower proportion of the market value for stumpage. In the United States however, much forest land was private, and the government's reach into the forest by using tax incentives had limited effect. In the Philippines, because the government owned nearly all of the forested land, the effect promised to be greater and more widespread.

In the colonial administration's attempt to spur capitalist development and aid U.S. exports, one effect of simplification was the devaluation of the islands' biodiversity. As James Scott and other scholars have argued, such state measures were efforts to

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<sup>90</sup> *Report* (1903), 316.

simplify the complexity found in nature.<sup>91</sup> The bureau listed fewer species in the higher value groups, more species in the low value groups, and classified previously unknown species in the “third” group. The woods that made up the superior and first groups were the “thirty most important” Philippine woods that Ahern promoted when he first organized the bureau. The second group contained forty-eight species also of relatively high market value. But the third group consistently contained the most species, more than all the groups together. In 1902, the third group contained 571 different woods and the fourth and fifth, 85 and 12 respectively.<sup>92</sup> Placing unknown woods into the third group again represented a balance between culling the forests and producing revenue. It allowed woodcutters to realize the benefits of the lower tax rates while also delivering a fair return on unknown woods to the state. But, it also suggested that the state had privileged some woods for the foreseeable future while devaluing the great majority of the islands’ tree species.

With the 1904 Forest Act, the Bureau of Forestry attempted to further simplify the forests and encourage more widespread logging of “inferior” species. The Act reduced the taxable groups from six to four combining the “superior” and “first” group woods into a single group of only twelve species. The remaining eighteen woods of the “thirty most important” made up the new second group while the third group was reduced to twenty-three woods. The fourth group contained eighteen specific woods and *all* “nonenumerated timber.”<sup>93</sup> Moreover, the tax rates had changed to create an even greater incentive for logging on a large scale. The Forest Law attempted to encourage logging in

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<sup>91</sup> Scott, *Seeing Like a State*, 81-83.

<sup>92</sup> *Report* (1902), 518.

<sup>93</sup> Philippine Bureau of Forestry, *The Forest Manual* (Manila: Bureau of Public Printing, 1904), 49.

some provinces more than in others by creating a taxation system that was fifty percent lower in “Class B” provinces than in “Class A.” Forestry officials wanted to promote the development of “Class B” provinces such as Mindoro, Negros, and Mindanao where logging prospects were good. Only two and a half years later, the bureau abandoned this system and set the government taxes at the “B” rates for all provinces.<sup>94</sup> The Class B status represented large reductions in the tax rates. For instance, after 1904 the fourth group was similar to the earlier third group by the virtue of possessing the most species. But, whereas the third group containing most Philippine species was taxed at a tax rate of 3% during the first three years of American colonization, the tax rate fell under the new “fourth” group to 1.6% after 1904.<sup>95</sup> By instituting a low tax rate on the vast majority of the islands’ species, the bureau nudged loggers to cull the biodiversity. And, by promulgating these groups of species into law, the government established market value for the future and the incentive to foster the reproduction of a few species over the majority.

Low value did not translate into uselessness. The colonial administration found uses for the vast majority of the islands’ low-grade timber. As early as 1903 the incentives for logging low-grade timber appeared to be working. What stands out in the 1902 Bureau of Forestry *Report* are the number of third-group species and the amount of third group wood brought to market. The third group contained about 77% of the total species in the market and about 48% of the total cubic feet. Loggers brought 1,855,617 cubic feet of third group woods to market. The next largest amount was the second group

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<sup>94</sup> *Report* (1907), 9. The “Class A” designation ended on January 1, 1907.

<sup>95</sup> The Superior Group from 1903 was taxed at 14%, but became 8% in 1904; Group 1 at 10% tax in 1903 became Group 2 at 5% in 1904, and Group 2 at 8% in 1903 became Group 3 at 3% in 1904.

of woods at 708,588 cubic feet. Nevertheless, the “superior” group still represented the highest market value of woods cut from the forest by a margin of almost two to one over the second and third groups.<sup>96</sup> Though not many modern, industrial logging operations existed in the islands, those that did took advantage of large profit margins through the removal of most species while also receiving high prices for the islands’ superior woods. Low-value woods continued to dominate the market in part due to large numbers of certain low-value, high-demand woods, such as lauan.

The overwhelming presence of lauan within the third group stands out as one of the most significant results of state-capital cooperation. Loggers delivered 656, 054 cubic feet of lauan, about 36% of the third group’s total, to market in 1902.<sup>97</sup> Part of the reason for this was that many similar species were all brought to market under the name “lauan.”<sup>98</sup> Blanco had claimed that attempts to “classify it correctly and arrive at a true knowledge of its properties have cost me years of study and investigation.”<sup>99</sup> Logging operators were commonly confused as to the variety of similar species, and revenue collectors and forestry officials too used this common shorthand term. In 1911, U.S. forester H.N. Whitford compiled the bureau’s most comprehensive list of species, and he identified nine species of the genus *Shorea* that could be correctly labeled as lauan.<sup>100</sup> Lauan, or the various species known as lauan, made up the largest portion of the islands’ construction timber. Though other “better” woods were thought to provide stronger or

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<sup>96</sup> *Report* (1902), 518. Between July 1901 and June 1902 the superior group brought \$94, 327 (Mexican) while the second and third groups brought \$56,687 and \$55, 668 respectively.

<sup>97</sup> This amount (36%) is my calculation. The 1902 Bureau of Forestry Report claims that lauan made up 17% of the third group’s total, but this seems clearly an incorrect calculation. *Report* (1902), 518.

<sup>98</sup> Explain the many species under the name “luaun.”

<sup>99</sup> Blanco in *Important Philippine Woods*, 62.

<sup>100</sup> H.N. Whitford, *The Forests of the Philippines, Part 2*, (1911), 16.

more durable timbers for construction, such as yacal, they were too scarce, too expensive, too heavy, or otherwise impractical for common construction. In short, lauan was an “inferior” wood highly valued for construction.

Lauan was the most cut wood because of its (their) reputation and usefulness. During the Spanish colonial period the wood was known for being especially good for building the hulls of the Spanish galleons because it did not splinter when hit with cannon shot. Also, it was known as the best wood for *bancas*, canoe-like boats common in the islands. Americans used it too because lauan and others like it made good light construction material and timber tests showed it to be similar to Douglas fir and American pines. Forester Ralph Bryant remarked in 1903, “The lauan, apitong, almon, and balbagan are among the standard construction timbers in use in the islands, and there is a strong and constant demand for them.”<sup>101</sup> Lauan was the most cut wood in the Philippines since before the American occupation and continued to be so after. However, Spanish colonial agents classified it in the third group because of its properties and availability, and during the early U.S. colonial period American forestry officials continued to imagine it as an inferior species that should be culled from the forest in favor of the prettier, more exotic woods such as narra and molave.

The U.S. forestry officials’ perceptions and expectations of tropical nature made it difficult for them to understand the value of lauan in the Philippine forests. Lauan became an irony – a useful, coveted wood whose value in the marketplace was based upon its “inferiority.” U.S. forestry officials knew that in the United States American pines had been over-harvested during the period of rapid industrialization and nation-

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<sup>101</sup> *Report*, (1903), 292.

building. And yet, lauan served similar purposes in the Philippines. Forestry advocates did not so much forget the lessons of North American deforestation, as they believed that they could shape the future of forest cutting. Moreover, cutting lauan appeared to serve all interests in the islands. It provided construction materials for the colonial administration, served as the foil for forestry officials' silvicultural dreams, and provided loggers with ample low-cost medium value woods for which a strong and dependable market was easily found. And yet, because of the bureau's focus on how species could be made into products, they had not realized how the lauans fit into the character or ecology of the forest.

In addition to changing the valuation of timber, the bureau in 1905 shifted the focus of its work in the Philippines to better understand how the forests grew and reproduced. Before 1905, the Bureau of Forestry had finished few surveys or forest plans in anticipation of large-scale logging. The bureau's botanical investigations and revenue collection had taken up most of the forestry staff's time and energy. When Henry Graves visited in early 1905, he criticized the lack of forest surveys and other practical work. Though he praised the bureau's efforts at revenue collection, he reported

"It must be said, however, that the work so far done by the Bureau of Forestry could have been done almost as well by some other department, excepting the research work carried on in Manila and at Lamao. If the work of collecting dues had been carried on by the Internal Revenue Bureau, and two or three first class foresters had been engaged in exploration work during the last two or three years, it is probable that the Bureau of Forestry would have a greater fund of information about the forests of the Philippines... When all of the information which has been gathered by the field officers, is put together, it proves to be very meagre..."<sup>102</sup>

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<sup>102</sup> Ibid., 4.



In four years, the bureau had put together only six forest surveys, and some of these are better described as conversations with logging operators more than scientific work. The bureau dispatched an agent to Camarines Sur in 1902; Bryant investigated the Bataan Peninsula in 1902 and Negros Occidental in 1903. Also in 1903, William Klemme went to Tayabas, and William Maule traveled to both Bataan and Zambales.<sup>103</sup> Graves blamed the foresters' direction, not the men themselves. Their work was too focused on botanical identification and contained very little attention to the specific work of practical forestry. Though Graves did "not mean to underestimate the usefulness of botanical work," he observed, "There seems to be a mistaken idea of the sort of botanical work needed." A foresters' work should be attuned to the study of "large trees," and "at the present time an Ant plant or a Bird's Nest Fern seems to the botanist to be almost as important as large trees." Ahern's agenda had focused on botanical investigations in order to identify new tropical products, but Graves expected foresters to pay better attention to yield, reproduction, and tree marking – that is, to market-oriented logging. Furthermore, Graves noted that "the average forest officer studies only one species at a time. In my judgment, the superior trees must be handled together."<sup>104</sup> That the bureau staff focused on single species also reveals how they privileged the identification of products. Although the bureau believed that it was dedicated to exploring the silvicultural potential of the forests, the pressure to show that forestry could stimulate investment reduced the bureau's attention to more holistic forestry approaches. Graves noted that in the bureau's efforts to commodify specific species, it had overlooked a fundamental aspect of scientific forestry – the assessment of forests as communities of plants.

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<sup>103</sup> *Report* (1902); *Report* (1903).

<sup>104</sup> Graves, "Confidential Report," 23-24.

Graves's report to Pinchot in 1905 showed that the Bureau of Forestry was struggling to both spur capitalist investments and to manage the forests along silvicultural principles. Following Graves's report and the passage of the Forest Act, the bureau reorganized its agendas, administrative capacities, and management structure in order to carry out new silvicultural investigations. A focus on forest products did not disappear, but was relegated to a "division" within the bureau. After July 1906, the Division of Forest Products handled the preparation of all exposition materials and museum samples, publication of bulletins, timber tests, and product information. By making products into one of the bureau's missions and not its central occupation, the bureau could commit more time, money, and work to forest management and inspection of logging tracts. The Division of Forest Products was able to concentrate more on specific products and less time was spent in identification and testing. The Bureau of Laboratories took over much of the microscopy and technical investigations. Ahern hired new American foresters who recently graduated from forestry schools in the United States, and they began investigating the forests along the lines that Graves had outlined. Ahern reported in 1906 "The work of the Bureau during the last year, for the first time since its organization in 1900 has been devoted almost entirely to practical forest work."<sup>105</sup>

The bureau also reorganized the forests into districts and placed foresters in command of each district. In 1906, the bureau began to publish district foresters' reports as bulletins. Since 1900, the bureau had only published one bulletin meant for wide circulation: Merrill's botanical research trip to Java in 1902.<sup>106</sup> But in 1906, the bureau

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<sup>105</sup> Report, (1906), 7.

<sup>106</sup> Elmer Merrill, *Report on Investigations Made in Java in the Year 1902* (Manila: Bureau of Public Printing, 1903).

published five new bulletins: two covering minor forest products (charcoal and gutta percha), one on the results of timber tests, and two on working plans for lumber companies in Mindoro and Negros Occidental. In addition, foresters continued their surveys and prepared new forest plans for future bulletins. The 1908 *Report* contained three additional investigations of potential logging tracts. These bulletins, forest plans, and surveys signified the bureau's new attempts to work with the few large logging operations in the islands and to integrate the latest management techniques of U.S. forestry in the commodification of Philippine forest products.

With the influx of graduates from the U.S. forestry academies at Yale and Cornell, the bureau began to look more closely at whole forests rather than seeking out the most valuable tree species. Ralph C. Bryant was a forester who graduated from Cornell in 1902 and went to work in the Philippines. He was one of the first U.S.-trained foresters to graduate from the new American schools of forestry and he accepted the challenge put forth by Pinchot for Philippine service. Bryant's training allowed him to see the forest in the practical ways that Pinchot and Graves promoted within U.S. forestry. In his initial report on Bataan (1902) and his subsequent report on the Gimogon River area of Negros Occidental (1903), he noted the many merchantable species in his survey area. During his visit to Bataan, his identification of the most common species points to only incidental interest in the Dipterocarp family of trees. "The following are the most important members of the family found here: Tanguile (shorea), lauan (anisoptera), panao (dipterocarpus), palosapis (shorea), guiyo (shorea), and dalindigan (shorea)."<sup>107</sup> Throughout the remainder of his report on Bataan, Bryant repeated the same

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<sup>107</sup> *Report* (1902), 484.

lists of species without ever acknowledging their inclusion in the Dipterocarp family. It was simply not the bureau's view in 1902. But, by the time that he investigated Negros in May of 1903, he had refocused his gaze. He reported that the forest in Negros was

“very similar, practically all of the merchantable timber belonging to the family Dipterocarpaceae, and composed principally of almon (Palosapis), lauan, apitong (panao of northern Bataan), and balbagan, a tree undoubtedly closely related to lauan. It also goes under the name of red lauan.”<sup>108</sup>

According to his academic training, this was the proper identification to make though it was lost on the bureau at the time. Nevertheless, Bryant's recognition of the family of trees was a prelude to how the bureau refocused its energies after 1905.

In the United States, the practice of forestry responded to changes being produced in the academic world. The new American forestry schools at Yale, Cornell, and the University of Michigan graduated trained foresters who, like Bryant, began to approach forests with forest plans and logging tracts in mind.<sup>109</sup> Pinchot and Graves had called for practical forestry work and these new graduates responded in a variety of ways. Though the various schools represented somewhat different views of U.S. forestry, their graduates brought a new sense of professionalism to forestry in the United States and in the Philippines.<sup>110</sup> Both theoretical and practical forestry ideas and methods appeared at the annual meetings of the American Forestry Association and the Society of American

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<sup>108</sup> *Report* (1903), 290.

<sup>109</sup> James G. Lewis "Trained by Americans in American Ways": The Establishment of Forestry Education in the United States, 1885-1911 (dissertation, Florida State University, 2001).

<sup>110</sup> Char Miller, *Ground Work: Conservation in American Culture* (Durham, N.C.: The Forest History Society, 2007), 79-83.

Foresters as well as in various publications dedicated to conservation. As academically-trained foresters trickled into the Philippine service, new ideas about how to approach forests made their way across the Pacific.

One of the most significant forestry methods was the appreciation of “forest types” that some foresters argued was essential for the silvicultural development of working forests. In 1905, Raphael Zon, a Cornell graduate (1901) and a leading authority on silviculture delivered a paper to the Society of American Foresters titled “Principles Involved in Determining Forest Types.” It stressed the importance of forest types in understanding how ecological conditions shaped the reproduction of species in a given location. Zon refined Henry Graves’s ideas about ecology and reproduction that Graves had developed in Nehasane Park in the Adirondacks six years earlier. As part of his forest plan, Graves asserted “If nature is left undisturbed then the same type of forest will tend to be reproduced on the same classes of situation and soil in a specified region.”<sup>111</sup> It was the foundation of current ecological thinking. Zon claimed that regions contained “original mother types” of forests that grew naturally until interrupted. And, after interruption by fire, storms, or logging, the forests would naturally return to their “original forms.” Zon stressed that determining forest types was not a matter of species or climate, but should only be attributed to soil, water, and topography. In other words, capitalist visions of commodities told little about the ecological nature of the forest. For the foresters to determine the reproductive capabilities of a forest tract, they needed to identify the original form. It was what made a forester the best agent to mediate the interests of economy and ecology. Zon argued, “Forest types should be laid down in the

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<sup>111</sup> Henry S. Graves, *Practical Forestry in the Adirondacks* Bulletin 26, Division of Forestry (Washington D.C.: GPO, 1899), 24.

foundation of all experimental forestry work,” in order to establish the basis for reproduction.<sup>112</sup> Such experiments were useful because “The laws of development and growth when once established for a forest type will hold good for the same forest type everywhere...”<sup>113</sup> The notion of forest types was in vogue among the U.S. forestry community in 1905 and 1906 when the Philippine Bureau of Forestry was undergoing substantial reorganization and reformulation of its mission on the colonial periphery. The ways that the bureau’s foresters used forest types illuminates their divided attentions and their attempts to mediate multiple interests by making the most current forestry theories and practices fit the colonial space of the Philippines.

Zon’s significance was more than merely refining a forestry technology, he offered a competing view of the future of U.S. forestry. Beginning in 1906, Philippine foresters incorporated forest types into their surveys of logging tracts and produced new views of the forests. Practical forestry combined the potential harvest with the forest type in order to produce information that could be used by both loggers and forest managers. Forester H.D. Everett investigated Negros Occidental and published *A Preliminary Working Plan for the Forest Tract of the Insular Lumber Company*. Everett surveyed “29 per cent” of the forest and only measured “trees on 1 per cent of this area.” But even given this limited survey, he concluded, “Since the merchantable forest on the tract is remarkably uniform in composition and density,” these estimations were useful portrayals of the forest. Everett’s characterization of the forest as “uniform” contrasted with foresters’ previous opinions about the Philippine forests, which had described them

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<sup>112</sup> Zon, “Principles,” 188.

<sup>113</sup> Ibid., 189.

as diverse and confusing. These new methods of categorization permitted the view of uniformity in the Philippine forests.<sup>114</sup>

Though Zon had warned against typing forests based upon composition (tree species), foresters in the Philippines did exactly that in lieu of having the time and resources to conduct larger, more extensive surveys. Zon advised that “composition cannot be relied upon for making natural forest types even in a virgin forest untouched by man,” because it will be unclear what factors have caused the forest to produce the current stand of trees. Any group of trees could be only a temporary host. By looking only at the forest composition, Zon warned, the forester will “fail to understand the natural evolution of the forest,” and “will always have nature against him in all his operations.”<sup>115</sup> Zon had claimed that only through studies of soil, water, or topography could a forester determine forest types. But the socio-political spaces of the U.S. Forest Reserves, in which Zon worked, and the colonial Philippines were quite different. Philippine foresters either did not have the time or did not take the time to conduct thorough ecological studies. Rather, they adapted forest typing to the colonial context in which they commodified the forests first without knowledge of the ecology.

Everett concluded that the forests on the Negros tract contained three types: waste-land, river-valley, and upland forests, but these designations hid the fact that composition guided his appraisal. The “waste-land type” were areas that had been cleared of trees and grew only small grasses and shrubs. He declared these to be better for agriculture than for forests and suggested that they might be opened for homesteads

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<sup>114</sup> *Report* (1906), 273.

<sup>115</sup> Zon, “Principles,” 182.

rather than scheduled for forest reproduction. The “river-valley type,” except for about “2,000 acres of original forest” was “characterized by many species most of which are small, crooked, and defective.” How he determined “original forest” is not known, but he likely assumed that local people did not significantly shape the forest, and so he assumed that it retained its “original” type. However, the “upland-forest type” covered about “85 per cent of the entire tract” and was characterized by a “dominant stand of large over-mature trees belonging to the family *Dipterocarpaceae*...making a forest remarkable for its density and yield.”<sup>116</sup> He surveyed the seedlings for information on the reproduction of the forest and concluded that reproduction was good in the upland (*Dipterocarp*) forests. Everett’s survey contained the same types of information that Graves and Zon claimed were necessary for proper forest typing including “social and economic conditions,” “climate,” and “physiography,” among much else. These elements revealed foresters’ sense that there was more information to consider in determining forest types than the presence of merchantable wood. But, regardless of Everett’s additional observations about people and place, his final analysis was set in the forest’s ability to provide merchantable timber to the marketplace.

Everett reported “The dominant trees important numerically and commercially are six in number, all *Dipterocarps*.” The six most frequently occurring species – apitong, almon, balacbacan, mangachapuy, lauan-bagtican, and lauan-dunlog – appeared at the rate of about twenty-nine trees per acre and made up about eighty-nine percent of the merchantable timber per acre. Everett determined the yield for this tract and compared it to yellow poplar in the United States as the species that “most closely resembled in shape

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<sup>116</sup> H.D. Everett “A Preliminary Working Plan for the Public Forest Tract of the Insular Lumber Company,” in *Report of the Philippine Commission* Vol 9, part 3, (1906), 654-655.



and volume the large Dipterocarps of this tract.” The forest “contained a total merchantable stock of 1,207,000,000 feet B.M,” and he concluded that the tract “is sufficient to supply a mill cutting 100,000 feet per day for forty-two years of three hundred cutting days per year.”<sup>117</sup> Far different than any previous attempts to catalog the Philippine forests, Everett had shaped a new way of surveying forest tracts in the Philippines. He had done it in the spirit of cooperation with industry, with silvicultural principles in mind, and under pressure from his superiors to establish the basis for economic development. Zon’s purpose for generating forest types were to understand the reproductive abilities of certain areas, but typing in the Philippines quickly morphed into apprehending the forests’ merchantable condition with limited attention to reproduction. The Insular Lumber Company arrived in Negros that year in order to exploit the tract that Everett had surveyed, and by the end of 1907 it was the only lumber company in the Philippines to cut near to its limit of 100,000 cubic feet per year.<sup>118</sup>

Also during 1907, Forester Melvin Merritt surveyed the logging tract of the Mindoro Logging and Lumber Company on the island of Mindoro. Merritt continued the practice of typing by species and concluded that the “Most important of all the different types of forests is that in which Narra...grows as the characteristic tree.”<sup>119</sup> He labeled the “Narra type” as the primary forest type on the Mindoro tract because of the lingering significance of a “superior” wood such as narra. In fact, this “type” of forest composed only ten percent of the entire commercial forest in Merrill’s survey, and within that ten

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<sup>117</sup> Everett, 660-661.

<sup>118</sup> *Report* (1908), 32.

<sup>119</sup> Melvin Merritt, *A Preliminary Working Plan for the Public Forest Tract of the Mindoro Lumber and Logging Company* (Manila: Bureau of Public Printing, 1906), 682-683.

percent narra made up only seven percent of the stand. The forest, regardless of the name assigned to it, looked much like Everett's forest in Negros. It contained twenty-two percent lauan (*Shorea contorta*), six percent guijo, about four percent of apitong, and other Dipterocarp species. In addition, Merritt remarked that more of the commercial forest (15%) should be known as "Hagachac type." Hagachac (*Dipterocarpus lasiopodus*) was another in the Dipterocarp family and made up seventeen percent of this forest type. Within the Hagachac type, other Dipterocarps were present in large numbers including eighteen percent lauan, about six percent of guijo, and others.<sup>120</sup> Merritt also produced a second report in his district during 1907. He called the second area of northeastern Mindoro, an "excellent forest" composed of "47 ½ per cent...of four species of Dipterocarpus" including almon, lauan, tanguile, and apitong.<sup>121</sup> Regardless of the names given to the forest types, a pattern was developing in which Dipterocarps made up the majority of the merchantable forests in the Philippines.

By 1909, Philippine foresters had produced the first working forest plans and these plans represented the bureau and the lumber industry's future preoccupation with Dipterocarp forests. Foresters and lumber operators' pressure on the Dipterocarp forests revealed key differences between U.S. forestry in the Philippines and at home. According to William Robbins, by 1907 Pinchot was fending off accusations that the U.S. Forest Service was in league with the lumber industry and acted against the "public good."<sup>122</sup> While these accusations may have been part of the same political hyperbole that perennially surrounded the USFS during its early years, U.S. foresters in the Philippines

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<sup>120</sup> Merrill, 685.

<sup>121</sup> *Report* (1908), 34-35.

<sup>122</sup> Robbins, *American Forestry*, 28-29.

collaborated freely with the lumber industry under the shared colonial mission of capitalist development, social engineering, and environmental management. The focus on Dipterocarps did not so much betray Progressive notions of protecting the public good as it underscored the islands' colonial status and established Americans, rather than Filipino/as, as the beneficiaries of this trans-Pacific forestry empire.

## Conclusion

Throughout the first decade of American colonization, Philippine forests contained shifting value, multiple meanings and Spanish colonial resonances. The Philippines' so-called "furniture, cabinet, and veneer woods" at the 1904 St Louis Expo mimicked older Spanish colonial knowledge the view that the Philippines largely served as an export market for items not available in the metropole. And, after 1906, the Dipterocarps represented the primary concern of American forestry officials as they sought to introduce widespread capital-intensive logging in the Philippine forests.

The Dipterocarp revelation in the Philippines was a decade long search for meaning and value. By 1909, the new character of the Philippine forests had emerged: forests of previously unknown trees with a low market value that nonetheless contained massive amounts of timber needed for nation and empire building. U.S. Forester Barrington Moore recognized their status in 1910 writing, "Although not as valuable as hardwoods these Dipterocarp are far easier to utilize and a good deal more useful on the whole."<sup>123</sup> The Dipterocarps were only able to inhabit such a role because of how

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<sup>123</sup> Barrington Moore, "Forest Problems in the Philippines," *American Forestry* (February, 1910), 75.

American colonial officials came to imagine the Philippine forests over time. In 1909, Ahern presented a striking contrast to his earlier disappointment over the islands' confusing and diverse flora asserting, "from a commercial standpoint the forests can be divided roughly into two classes; the dipterocarp forests and all others."<sup>124</sup> Of course, one would expect that the state foresters would learn new lessons and information, and would change their perceptions over time. They would establish new ways of interpreting the natural world. But, how U.S. forestry officials settled on Dipterocarp forests as their central focus was contingent upon an array of interests within the colonial context.

The U.S. foresters' duty to both stimulate capital investments in the islands and protect the forests for the future forced them negotiate their own agendas and bureaucratic pressures to produce results. The fact that the Philippine forests became highly commodified and eventually heavily logged can suggest that the forestry officials acted merely as capitalist stooges. But this chapter argues that numerous voices filled forestry officials' heads and clamored for attention.<sup>125</sup> Foresters' methods, allegiances, prejudices, training, and senses of duty composed the toolkit with which they worked out their mission in the Philippines. And, based upon their status as experts they were particularly influential as they measured trees, recommended policies, identified forest types, assigned value, and most of all, determined how best to interpret the new and complex field of American economic development that was the Philippine forests. The foresters' job was to make recommendations that ostensibly satisfied varied interests – democratic, scientific, and capitalist. But, in the colonial context of the Philippines, the

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<sup>124</sup> *Report* (1909), 10.

<sup>125</sup> Daniel R. Headrick, *The Tools of Empire: Technology and European Imperialism in the Nineteenth Century* (Oxford: Oxford University Press, 1981).

Dipterocarp revelation resulted in the commodification of the forests over Rafael Zon's ecological understandings of "original mother types."

The arrival of academically trained foresters brought a new focus on the Dipterocarp family of trees. Such a focus represented the U.S. officials' attempts to mediate their forestry training, ideas about the tropics, and colonial demands. They believed that by identifying the "original mother type" of forests, they were beginning to understand how to make the forests reproduce regular crops of trees. Though U.S. forestry officials were disappointed in the Philippine forests in 1901, they overcame the islands' biodiversity not by honing their search for valuable timbers, but rather by changing the meaning of value within their searches.

In the United States, foresters attempted to reproduce the valuable northern expanses of white pine and spruce, woods that had been overused in industrialization and nation and empire building since the late eighteenth century. U.S. foresters imagined that pines and spruces composed the "original" forests, and they believed that for the sake of national survival the forests should be made safe for the reproduction of pine and spruce. In the Philippines, instead of imagining lauan as the "original mother type," Philippine foresters determined that hardwoods such as narra should be fostered while the lauans should be culled. It was as if the American foresters had stepped back in time and were recommending the expedient removal of white pine in order to reproduce forests of, say, walnut or cherry. In the foresters' efforts to facilitate capitalist development in the Philippines they began to reproduce the same elements of deforestation that plagued the United States: a supply and demand on construction timber that, once animated, could no longer be controlled.

## Chapter 4

### “The Land Question”: State-Capital Cooperation and Uncooperative Environments and Peoples

“The most difficult problem[...]is The Land Question, involving, as it does, the relation of the forests to the population and the settlement of the land.”

- U.S. Forester Barrington Moore (1910)<sup>1</sup>

#### Introduction

American colonial forestry officials’ most proud achievement – the control of 98% of Philippine forests – became their most difficult and persistent burden. After George Ahern published his first official *Report* in 1900, American newspapers pointed out that the U.S. forestry administration had command of nearly all the islands’ forests. Demonstrating the stark contrast to the United States where vast private landholdings and the American sanctity of private property reigned, the extensive government lands in the Philippines promised to show the effectiveness of U.S. forest management. With approximately 40 million acres to administer, the Philippine Bureau of Forestry hoped to transform the rural Philippines into well-managed state spaces that benefitted capitalists, farmers, small landholders, and village communities.<sup>2</sup> However, because of the extent of the forests, the island geography that made travel difficult, and the Bureau of Forestry’s small staff, administration of the forests remained a vexing issue. During the first two

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<sup>1</sup> Barrington Moore, “Forest Problems in the Philippines,” *American Forestry* (February, 1910), 78.

<sup>2</sup> Bureau of Insular Affairs, *Compilation of Laws and Regulations relating to Public Lands in the Philippine Islands* (Washington DC: GPO, 1908), 4.

decades of colonial rule, the bureau struggled to devise a land management plan that introduced market-oriented forest use among uncooperative environments and societies.

By 1905, Ahern had increased the bureau's capacity to promote capitalist development, but the bureau still struggled to outline land management policies. Being concerned with both social and environmental reform, Ahern wrote,

“The question of forest protection is one that stands among the foremost in a forest policy, and among the various conditions studied, from which to draw conclusions, the status of the people, whom it most concerns, is not the least important.”<sup>3</sup>

While Ahern strove to pique capitalists' interests, he also sought an equitable social policy and the protection of the forests. What remained for Ahern and other American forestry officials in the Philippines to determine was how to bring rural peoples into the bureau's forest management schemes. In addition, knowing that greater exploitation would bring the potential for deforestation, the bureau attempted to determine exactly who constituted threats to the public forests.

In 1910, Barrington Moore, a U.S. forester who investigated the Philippine Bureau of Forestry's progress, wrote “Forest Problems in the Philippines” to shed light on the forestry challenges in “our most important possession.”<sup>4</sup> He declared that “The Land Question” was “the most difficult problem” in Philippine forestry. Moore noted two specific roots of the problem. First, because the colonial administration held 98% of the

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<sup>3</sup> George P. Ahern, *Report of the Chief of the Bureau of Forestry* (Manila, 1905), 279. Hereafter listed as *Report*.

<sup>4</sup> *Ibid.*, 75.

all the forests in the islands, it was responsible for providing access to forest resources for the people of the Philippines. He considered the solution to this problem to be “comparatively simple” in relation to the second problem – “the settlement” of the people on a landscape dominated by forests. In order to solve this problem, the Bureau of Forestry received the unprecedented authority to assess all public lands and determine whether they should remain as forests or be transformed into agricultural lands for settlement or the planting of cash-crops. Unlike forestry in the United States, the Philippine bureau was tasked with engineering appropriate social and environmental relations through centralized land management.

The bureau’s early land management policy drew new lines across the landscape in order to create yeoman farmers and to correct the landscape’s natural inclination to grow more forests than farmlands. The bureau’s landscape classification policy emanated from a basic principle of modern forestry: political entities (nation, state, province, etc.) required an appropriate *proportion* of forest land to agricultural land. Forestry and agricultural experts determined the correct proportions by studying the socio-economic conditions on the polity.<sup>5</sup> U.S. forestry experts concluded that the problem of the Philippines, quite simply, was too much forest. The bureau sought to reduce the forest cover in order to both stimulate economic growth and settle transient peoples and the landless poor on farms. The policy outlined a highly ordered landscape and legitimate

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<sup>5</sup> American observers speculated wildly on the proportion of Philippine forests to farmland existing in 1898, though the most common estimates placed forests at about 65% of the total landscape. Thereafter, the bureau’s foresters labored to arrive at a correct, sustainable proportion of land that should be kept in forests. In 1930, Forester Felix Franco stated that “45.9 per cent[...]or 13,580,418 hectares should be kept in forest” in order to secure the future of the Philippines. See Felix Franco, “Forests Must be Insured to Make Future of Country Safe,” *Manila Daily Bulletin* (October 31, 1930), 1, FHS USFS Newspaper Clipping File, Box 29, Folder “Philippines Forests.”



economic pursuits. The bureau established “exclusive agreements” with lumber operators, forest reserves for scientific study, communal forests for villagers, and a Homestead Law – not unlike the U.S. Homestead Act of 1862 – that promised to foster stable citizen-farmers. These regulatory efforts sought to bring all Philippine forest users into an ideal of forest modernity and they implied an adversarial role for forest users who rejected or resisted the bureau’s regulations and land classification schemes.

The U.S. colonial state’s land management efforts were fundamental elements of state forestry since it emerged in Europe centuries earlier.<sup>6</sup> Forestry was born of states’ attempts to centralize both economy and territorial control. It acted as a technology of rule through which state power could be imposed upon “a prostrate civil society,” according to James Scott.<sup>7</sup> Instead of the proliferation of “the logic of local practice” that was characteristic of “nonstate” ways of knowing environments and social relations, increasingly powerful states relied upon “high modernist principles” to make chaotic social relations and environments legible, predictable, and manageable.<sup>8</sup> State forestry agencies attempted to achieve larger economic goals and to define citizenship through the management of lands. But as Scott and others have shown, state attempts to shape society are only ever partially successful because both environments and societies respond to state impositions in unexpected ways.

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<sup>6</sup> For the definitions of the state, I am borrowing from Charles Tilly who asserted that the state is composed of “coercion wielding institutions that are distinct from households and kinship groups and exercise clear priority in some respects over all other organizations within substantial territories.” Charles Tilly in George Steinmetz, ed., *State/Culture: State Formation after the Cultural Turn* (Ithaca, NY: Cornell University Press, 1999), 8.

<sup>7</sup> James C. Scott, *Seeing Like a States: How Certain Schemes to Improve the Human Condition have Failed* (New Haven, CT: Yale University Press, 1998), 5. See also, K. Sivaramakrishnan, *Modern Forests: Statemaking and Environmental Change in Colonial Eastern India* (Stanford, CA: Stanford University Press, 1999), 4-13.

<sup>8</sup> *Ibid.*, 25.

As Moore observed, the bureau's settlement policies encountered two great challenges: 1) Filipino/as did not "naturally" seek out individual land ownership and 2) the Philippine environments did not cooperate with the bureau's plans.<sup>9</sup> For centuries, shifting agriculturalists burned areas of forests in preparation for temporary agricultural planting, called *kaiñgins* (ka-EEN-geens) in Tagalog.<sup>10</sup> The *kaiñgineros*, as the Spanish had labeled the shifting agriculturalists, used the lands for two to four years until the soil was exhausted. Then, they moved to new areas. Americans routinely criticized Filipino/as for this land use system because it did not conform to American ideals of individual land ownership. The environment too failed to conform. Areas of the forest that had been disturbed by fire or logging tended to foster invasive grasses, called "cogons," that prevented tree growth and made the lands extremely difficult for agriculture. Although U.S. forestry officials had initially subordinated *kaiñgin*-making to other concerns such as fire and industrial extraction, by 1910 the bureau had created a narrative in which *kaiñgins* served as "the most destructive agency in the Philippine forests."<sup>11</sup> This narrative of threat helped to justify the bureau's increased surveillance, policing, and punishment of non-conforming rural peoples. Nevertheless, the combination of land use patterns and the natural tendencies of the Philippine environments exposed one of the

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<sup>9</sup> Ibid., 78.

<sup>10</sup> *Kaiñgin* is the Tagalog spelling for the areas of cleared forest. Americans spelled the word "cañgin." Moreover, while *kaiñgin* may refer to "slash and burn" shifting agriculture in the Philippines, the practice and the term changed from place to place indicative of highly localized land tenure as well as social and economic arrangements. Part of the point of this chapter is to discuss how American forestry officials imagined *kaiñgins* as a single, archipelago-wide phenomenon and therefore I use "*kaiñgin*" to refer to the practice as the American did – as shifting agriculture based upon burning forest biomass and planting crops for both subsistence and commerce. See also Anna Lawrence, "*Kaiñgin* in the Philippines: is it the end of the Forest?" *Rural Forestry Network Paper 21f* (Summer, 1997), 1-8; David M. Kummer, "Upland Agriculture, the Land Frontier and Forest Decline in the Philippines," *Agroforestry Systems* 18 (1992): 31-46.

<sup>11</sup> *Report* (1906), 11.

Bureau of Forestry's central deficiencies – it was a relatively weak office that was both understaffed and increasingly underfunded given its multitude of duties.

### **Drawing Lines: Licenses and the Bona Fide Forest User**

U.S. forestry in the Philippines, as forestry elsewhere, began with the identification of problems. But, the forestry problems that Americans identified at home were not the same as problems across the Pacific. Forestry policymakers in both places had to devise land management plans for the millions of acres of forests that they stewarded, the social circumstances in each place shaped those policies. In the United States, Americans' traditions of private property and free use of the public domain limited the U.S. bureau's ability to restrict access to forests and forest products. During the first five years of the twentieth century, the Philippine and U.S. forest regulations developed together. In 1905 Gifford Pinchot distributed the *Use Book* across the nation to inform the public of forest use regulations.<sup>12</sup> In it, the public was assured that free non-commercial use of forest products would continue. In both the United States and the Philippines permits and licenses represented the state's method of creating state space and legitimizing certain forest uses and certain forest users.

The bureau's primary method of regulating forest use was through the issuance of licenses. When organizing the Bureau of Forestry, Ahern adopted the licensing system that the *Inspeccion de Montes* had established along with the taxation method discussed

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<sup>12</sup> USDA, Forest Service, *The Use of the National Forest Reserves: Regulation and Instructions* (Washington DC: GPO, 1905). For more on the *Use Book* see Harold K. Steen, *The U.S. Forest Service: A History*, (Seattle: University of Washington, 2004), 78-80.

in Chapter 3. Ahern's admiration of the Spanish licensing and taxation system led him to report, "The forestry laws and regulations in force in August, 1898, are found to be excellent, practicable, and in line with the most advanced forestry legislation in Europe..."<sup>13</sup> Specifically, Ahern appreciated that the state used the license and tax system instead of selling forest land, with a few exceptions, to private interests. Most forest land in the Philippines remained in state ownership, thereby avoiding what Pinchot and others believed to be one of the worst pitfalls of U.S. domestic forest policy – the sale of forest lands.

In the United States, forest land sales, preemption under the Homestead Act as well as other land claim Acts, and subsequent taxation had created incentives for loggers to cut timber with reckless haste. Forest sales led to massive forest loss, the overproduction of timber, and the reversion of cutover and devalued lands into the public domain.<sup>14</sup> In the Philippines, first the Spanish and then the U.S. forestry officials regulated forest use through user fees. Users acquired licenses free of charge, but they were required to pay for the products that they removed from the forest according to the tax schedule.<sup>15</sup> Forestry advocates maintained confidence that the pay-per-use system would conserve resources in the Philippines. Ideally, private interests were permitted access to forest resources only under the watchful eye of state experts and revenue collectors. Although Ahern, Pinchot, and others desired the same type of regulation in the

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<sup>13</sup> *Report* (1900), 2.

<sup>14</sup> Michael Williams, *Americans and their Forests: A Historical Geography* (Cambridge: Cambridge University Press, 1989); William G. Robbins, *American Forestry: A History of State & Private Cooperation* (Lincoln, NE: University of Nebraska Press, 1985); Char Miller, ed., *American Forests: Nature, Culture, and Politics* (Lawrence, KS: University Press of Kansas, 1997).

<sup>15</sup> *Report* (1901), 5.

United States, Congressional opposition meant that it fell to the colonial Philippines to exhibit ideal U.S. state forest management.

Forest use licenses in the Philippines only came about during the last thirty-five years of Spanish colonial authority and they were the result of peninsular forestry advocacy and colonial administrative reform. Greg Bankoff's survey of the surviving records has shown that earlier Spanish land laws governing colonial possessions recognized the needs of local communities while also developing forests for foreign and domestic trade.<sup>16</sup> However, protests by rural peoples in the Philippines exposed the degree to which colonial authorities, both secular and Catholic, ignored regulations covering the equitable treatment of indigenous people. Because Spanish officials in the Philippines had disregarded these earlier laws as well as much of their own Iberian forestry tradition and allowed some islands, such as Cebu, to become largely deforested for the sake of cash-crops, the Spanish crown established the office of *Inspeccion General de Montes* in 1863.<sup>17</sup> To expand the forestry bureau's reach in the islands, the Spanish crown authorized increases in funds and personnel after 1872, the year that licenses and fees began to generate revenue.<sup>18</sup> But, even after increases in Spanish forestry administration, oversight and enforcement were limited in the islands. Licenses

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<sup>16</sup> Bankoff, "A Month in the Life," 20; George P. Ahern, *Spanish Public Land Laws* (Washington DC: GPO, 1901), 7.

<sup>17</sup> Hamilton Wright, *A Handbook of the Philippines* (Chicago: A.C. McClurg & Co., 1907). 126. See also Dennis M. Roth, "Philippine Forests and Forestry, 1565-1920" in Richard Tucker and J.F. Richards, *Global Deforestation and the Nineteenth Century World Economy* (Durham, NC: Duke University Press, 1983), 32-33; Potter, "Forests versus Agriculture," 40.

<sup>18</sup> Regino Garcia, "Brief Review of the Forestry Service during the Spanish Government from 1863 to 1898," LOC, Pinchot Papers Box 586, 2; Greg Bankoff, "Breaking New Ground? Gifford Pinchot and the Birth of 'Empire Forestry' in the Philippines, 1900-1915," *Environment and History* Vol 15, No. 3, (August, 2009) and "A Month in the Life of Jose Salud, Forester in the Spanish Philippines, July 1882," *Global Environment* 3, (2009); Potter, "Forests versus Agriculture," 38-39.

under the Spanish colonial government did not create widespread reform; like its American successor, the reach of the *Inspeccion de Montes* was limited. The Spanish succeeded in pulling some forest production into closer proximity to the markets while much of the rest of the archipelago escaped forestry reforms.

Licenses and the accompanying taxation raised revenue for the *Inspeccion de Montes* but had limited effect on general forest use. The Spanish colonial administration lacked the personnel to supervise licensees or to penetrate the islands' interiors where the production of forest products occurred. As Spanish authorities admitted at the 1876 Philadelphia Exposition, "The Spanish dominion" on Mindanao and other islands was "only a fact in some of the localities on the coast," and the Spanish forestry employees mostly inspected products brought to the busiest markets such as Manila, Iloilo, and Zamboanga.<sup>19</sup> During the late Spanish colonial period, most timber licenses covered logging in only a few provinces that were within a short sailing distance from Manila such as Masbate, Tayabas, Romblon, and Marinduque.<sup>20</sup> Some forest users took quickly to the new license system. Large logging companies, for instance, had little choice but to obtain licenses; their operations were obvious and could not avoid state regulation. Also, traders who brought products from forest hinterlands to the most important marketplaces likewise had to comply with the license and taxation system if they hoped to sell their wares. Nevertheless, although the *Inspeccion de Montes* had done much to systematize the lumber trade and markets in Manila, the spaces of production for timber and non-

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<sup>19</sup> *Catalogue-memoir of a Collection of Forestal Productions Exhibited by the General Inspection of Woods and Forests of the Philippine Islands at the Universal Exposition of Philadelphia U.S.A.* (Manila: Imp. de la Revista Mercantil de J. de Loyzaga y C., 1875), 15.

<sup>20</sup> John Burzynski, "The Timber Trade and the Growth of Manila, 1864-1881," *Philippine Studies* 50, 2 (2002), 171-180.

timber products remained largely in the hands of logging operators and indigenous cutters and collectors.<sup>21</sup>

After 1900, U.S. forestry officials accepted the Spanish license system, but also sought to expand the Bureau of Forestry's reach and effectiveness. While Spanish authorities may have instituted forestry regulations for many reasons including the protection of the forests, Americans criticized the Spanish forestry system for ignoring basic forestry ideals and merely acting as a source of revenue. For example, the Philippine (Schurman) Commission pointed out that the Spanish licenses did not prevent logging interests from operating cheek by jowl in the forests and leaving entire areas denuded of their forest cover. Ahern's most serious concerns were summed up in a short passage that he included in his first two reports to the Philippine Commission. He wrote,

“Licensees cut any and every thing; trees to be felled were not selected; any tree, no matter how small, could be felled; valuable rubber, gutta-percha and ylang ylang trees were taken, and the most valuable woods used as firewood. As a matter of fact, the officials began their work after the tree left the forest, and not before.”<sup>22</sup>

Ahern criticized the Spanish for not logging the forests by the selective method and for merely waiting at the docks to collect revenue. In addition to adding selective logging to the Philippine forestry system, Ahern wanted greater surveillance of labor and logging methods. His concerns over the license system illuminated elements that he believed made American forestry superior to the previous Spanish system. But his desire

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<sup>21</sup> Burzynski, 187-188.

<sup>22</sup> *Report* (1900), 2.

outstripped his and the bureau's abilities. Understaffed and weak, the bureau could do little more than its Spanish predecessor had done.

But from Ahern's point of view, the Philippine Bureau of Forestry moved beyond the *Inspeccion de Montes* by revising how the licensing system operated. The rationale of the license system was to hold forest users accountable for forest use. Applicants for licenses had to appeal to forest officers, either rangers or foresters, and only after the forestry official acknowledged that the forest tract would not be damaged from use could the licensee proceed. Ahern complained that the Spanish had condoned a contract method that undercut the purpose of licenses. Within the contract method, licensed logging operators existed on coasts and contracted with unlicensed woodcutters who felled tress and collected other forest products away from the licensee's view.<sup>23</sup> According to Ahern, this system left "the present forest wealth in the hands of the ignorant cutter," and he wanted closer supervision.<sup>24</sup> The purpose of the license was to link a specific forest user to the state authority. The licenses dictated the cutting of specific trees using only bureau-approved methods. The contract system appeared to render the license irrelevant. In 1901, Ahern required license applicants to list the name of a specific town or barrio where logging and collecting was to occur instead of the previous method that only required the name of a province. He believed that this added specification would allow the bureau to "know at once where to place the responsibility for any violation of the forestry regulations, as to manner of felling or removing forest products."<sup>25</sup> Ahern also wanted the licensees to accept responsibility for the cutting and collecting that went on in

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<sup>23</sup> John Foreman, *The Philippine Islands* 2nd ed. (New York: Scribner's, 1899), 373.

<sup>24</sup> *Report* (1902), 473, 483.

<sup>25</sup> *Report* (1901), 12.



the forest. During the bureau's first few years, Ahern focused on inventories of forest products, but it soon became apparent that forestry officials had to insert themselves into forest communities for better surveillance and regulation of forest use.

During the bureau's first four years, Ahern's regulations reflected his attempts to educate and control colonial subjects. The bureau used licenses to create better surveillance in the woods, reform woodcutters' methods, and strike a balance between aiding capitalist development and protecting forest resources. Similar to free use permits in the United States, the Philippine licenses catalogued *who* worked in the forest, from *where* products were removed, and *how much* of each product was taken.<sup>26</sup>

The bureau issued licenses for many forest products, but timber licenses were administrators' main concern because merchantable wood represented the most valuable product in the forests. Forestry officials imagined that timber cutters could be separated into three categories of scale: 1) large capital-intensive, market-oriented operations; 2) small commercial operators; and 3) poor, localized forest users. Licenses permitted large, also called "incorporated," operators to remove up to 100,000 cubic feet of timber per year from a given province. The small commercial operator was allowed to cut up to 10,000 cubic feet of timber per year. The poor, localized forest user could receive a gratuitous license for their everyday fuel and food requirements.<sup>27</sup> All licenses were obtained free of charge, but a gratuitous licensee permitted the licensee to remove specified products without paying the attendant taxes. A gratuitous licensee could not take more than "1,000 cubic feet of lower grade timber," which forestry officials

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<sup>26</sup> *Use Book*, 16-20.

<sup>27</sup> Gratuitous license is somewhat of a misnomer because all of the licenses were free of charge. But the gratuitous license entitled its holder to remove products from the forest without paying taxes.

presumed was mostly for firewood. The records for the fiscal year 1901 show that of a total of 1,304 licenses issued throughout the Philippines, only ten went to incorporated logging operators, while 662 were issued to unincorporated loggers, and 260 licenses were gratuitous.<sup>28</sup> During the early days of American colonization, the large capital-intensive operations that Americans hoped would modernize the forest products economy in the Philippines only existed on a very limited scale. Moreover, many rural people continued to use the forests as they had done – without gratuitous licenses.

However, although the bureau officials believed that they brought order to a chaotic forest, both large and small forest users took issue with the license system. For example, the bureau issued timber licenses to incorporated logging interests that contained one-year terms and were renewable each year. Timber companies complained that they were unlikely to invest large amounts of capital in the Philippines if there was a chance that their licenses would not be renewed the following year. They requested that licenses allow them to remove 200,000 cubic feet of timber per year and contain twenty-year provisions.<sup>29</sup> And, in 1901, the Philippine Development and Lumber Company went further issuing a warning to the bureau that the best industrial timber and lumber companies would not venture to the islands without assurances of unlimited cutting for an undetermined number of years.<sup>30</sup>

But, large operators were not the only ones who were unhappy; small-scale forest users also expressed a range of dissatisfaction with the license system and the new forest

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<sup>28</sup> The remaining 372 licenses were issued for so-called “minor forest products.” *Report* (1902), 463.

<sup>29</sup> *Report* (1902), 460.

<sup>30</sup> “Timber Cutting in the Philippines,” (Manila: April 25, 1901), FHS USFS Newspaper Clipping File, Box 28, Folder “Philippine Islands Lumber,” 5-6.

regulations generally. American policymakers wrote policies that empowered the colonial administration over local *datus*, or headmen. But, these laws often did not reflect the real limits of colonial reach nor the extent to which the colonial administration depended upon established local political organization. For example, the 1904 Forest Act claimed to abolish all “prescriptive right to the use, possession or enjoyment of any forest product[...]except as provided in this Act.”<sup>31</sup> This provision of the Forest Act was directed at the local village-level control of forests that had developed over centuries between *datus*, leading families, and Spanish colonial agents (usually friars). Specifically, the U.S. policymakers targeted the power of the *caciques*, a general term for powerful, ruling elites and absentee landlords who Americans hoped to both reform and empower as future national leaders.<sup>32</sup> The Forest Act reveals the colonial administration’s attempt to project power and reorder Philippine society from the top down. But, these attempts often stoked the rural antipathy against colonial administration that had generated a revolution against the Spanish.

The bureau officials believed that the expansion of the Spanish gratuitous license program would allow them to regulate the many small-scale users while also permitting rural villagers to take what they needed from the forests. Believing their ability to control forest users to be more than it was, the forestry staff instigated punitive measures during 1903 and 1904 including the denial of license renewals and cancelation of timber licenses

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<sup>31</sup> Bureau of Insular Affairs, *Laws Relating to Public Lands in the Philippine Islands* (Baltimore, MD: Frank L. Sibley & Co., 1905), 60.

<sup>32</sup> Paul A. Kramer, *The Blood of Government: Race, Empire, the United States and the Philippines* (Chapel Hill, NC: University of North Carolina, 2006), 196; Patricio N. Abinales and Donna J. Amoroso, *State and Society in the Philippines* (Lanham, MD: Rowman and Littlefield, 2005), 99; Benedict Anderson, *The Spectre of Comparisons: Nationalism, Southeast Asia, and the World* (New York: Verso, 1998), 192-226; Reynaldo Ileto, *Knowing America’s Colony: A Hundred Years from the Philippine War* (Manoa, HI: Center for Philippine Studies, 1999), 41-66.

if cutting operations took longer than four months to get under way.<sup>33</sup> From the Americans' point of view, these measures were only one small part of a larger system designed to satisfy individuals' needs and protect common resources. But, the people often did not feel similarly. After his trip to the Philippines to observe the bureau's operations, Henry Graves, the dean of Yale's Forestry School, reported that the bureau was increasingly unpopular. "The next insurrection will be largely due to the Bureau of Forestry," Graves cautioned.<sup>34</sup> The U.S. forestry officials attempted to control peoples' livelihoods that it did not understand and that had not been as regulated by the government before. Furthermore, rural people who made their living from the forest suddenly were asked to obtain licenses and pay for everyday items that had been free. The bureau required "needy residents," as Ahern termed them, to seek endorsements from the "president of the town in which the applicant lives" as well as from the local forestry official before they could receive a permit for basic forest products such as firewood.<sup>35</sup> This dual approval illuminates the conflict within the bureau's forest policies. By requiring license applicants to appeal to local village leaders, the bureau recognized local leadership even as it sought to reorder Philippine politics. But it also produced bureaucratic red-tape; the burden fell on local forest users and forestry officials to uphold increasingly complex forest laws.

Struggling to secure the peoples' support, Ahern decided to have local forestry officials in the provinces "grant ordinary timber licenses not to exceed thirteen cubic

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<sup>33</sup> *Report* (1904), 20.

<sup>34</sup> Henry S. Graves, "Confidential Report on the Conditions of the Philippine Forest Service," LOC Pinchot Papers Box 640 "XII Philippines," 4.

<sup>35</sup> *Report* (1901), 5.

meters to each person.”<sup>36</sup> This was intended as a concession, but it also burdened the bureau with another onerous duty that it would not be able to carry out. The thirteen cubic meter provision meant forestry officials had to issue to *each head of household* a timber license to cut up to that amount of timber for home and boat building, fish traps, or other uses. It reduced the difficulty of applying for a small timber license, even though villagers were still required to pay for the wood. Most villagers had not the cash nor the incentive to obey. In addition, because the bureau recognized the need for fuel wood, each head of household was also to be granted a gratuitous license for firewood and other necessary non-timber forest products, such as rattan. The thirteen meter rule freed locals from *ordinary* licenses (though not from payment), and a gratuitous license for every head of household meant that locals did not have to apply and wait for responses. Both demonstrated the bureau’s attempt to exert its power even as it was responding to local needs. What seemed like munificence to the bureau turned out to be burdensome for both the bureau and forest users. In response, locals turned their backs on the bureau, subverted its authority, and largely resisted its policies.

The bureau also angered rural forest users by increasing surveillance and inflicting punishments for violations of forest laws. For example, forest users may have obtained licenses for free firewood, but they still received fines if rangers caught them with gums or resins that they had also collected while in the forest searching for wood. The colonial state saw each forest product as distinct commodities and licenses specified the exact product to be taken from the woods even if local customs were to collect various forest products together. In addition, the bureau’s grouping of timber species into

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<sup>36</sup> *Report* (1904), 19.

groups complicated rural peoples' habits. Village-level timber cutters may have received gratuitous licenses that permitted the free collection of third group or lower woods for home construction.<sup>37</sup> But if the licensee collected "superior" or "first group" timber, such as yacal or ipil, both common construction timbers, then the licensee may incur fines, the confiscation of goods, the cancellation of licenses, or prison terms for the most severe infractions.<sup>38</sup> The bureau's new modes of surveillance and punishments as well as its arbitrary systems of value and ownership irritated rural folk who both went about their lives making customary forays into the forest and attempted to exploit increasing market opportunities by taking from the forest.

The bureau's licensing regulations came from the Spanish *Inspeccion de Montes* as well as from Progressives' ideas about what constituted legitimate land use. At the same time that Ahern worked to solidify Philippine forest laws, Gifford Pinchot authored a draft of the U.S. Forest Service's *Use Book* that was published in 1905. In the *Use Book*, Pinchot made it clear to the people who lived near the U.S. forest reserves that their use of the woods would be respected. They could receive permits for the free non-commercial use of the forests – the same as the gratuitous licenses in the Philippines. For Pinchot, the forest laws could never have been passed in the United States without guaranteeing the rights of the citizens to use the national forests. Some of the earliest protests against state forestry was the belief that the Progressives wanted to take away westerners' ability to use the public domain. Pinchot's assurance that the forests were "for the use of the people," demonstrated recognition of citizens' ability to influence state

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<sup>37</sup> For explanations of timber groups see chapter 3.

<sup>38</sup> *Report* (1904), 20.

policy.<sup>39</sup> But, it also reflected how U.S. forestry authorities defined and imagined the public. State forest officials hoped to bring Americans into a well-regulated, efficient capitalist system. Pinchot and others believed that Americans who traveled west to settle the country by claiming lands and using the public domain to accrue capital were jointly agents of capitalism and nation-building. Such people were included in Progressives' definitions of the public and could use forest resources as they had before the advent of state forestry regulations. Others in the American West, such as those Native Americans who resisted the influence of capital or clung to older ways of using the land, were perceived by Progressives as backward and obstacles to progress. Their land use was delegitimized and they remained apart from Progressives' definitions of the public. However, although these distinctions showed racial prejudices, they were not strictly drawn along racial boundaries. Instead, they were devised through forest use. Anglo-Americans too had to reform their use of the forest within the new state system. Overuse of the public domain, starting forest fires, and wasteful logging practices all placed forest users in opposition to a capitalist, law-abiding public.

In the Philippines, the same spirit of the law was present – to respect citizens' rights to the forest resources as long as forest use reflected the new tenets of scientific forestry, including capitalist means of production. But rural Filipino/a communities had not come from the individualist and capitalist traditions that Americans had. Rural Philippine communities often maintained certain forests for community use and use by the upper-echelon of local societies. American forestry officials did not perceive these forest users as their counterparts in the United States; they were not the vanguard of

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<sup>39</sup> *Use Book*, 6.

capitalism and the nation. In fact, for U.S. forestry officials, these forest users represented the antithesis of good forest use. Increasingly in the islands, U.S. administrators classified the Philippine public as those forest users who complied with both capitalist uses and the new forest laws. What began under the Spanish as a liberal reform in which the state protected citizens' access to resources became an American attempt to universalize individualism and capitalism that generated much tension between the bureau and rural people.

During 1903 and 1904, a decline in the number of licenses in some provinces indicated that the bureau's programs and policies were not having the desired effects of creating more orderly and better regulated forest economy and citizenry. Graves concluded that "There can be no question that the reduction in the number of licenses issued in many sections [provinces] is directly due to the hardships occasioned by the fines and penalties."<sup>40</sup> But the decline in licenses also came from the bureau's disorganization and its lack of sufficient personnel. Because Ahern wanted to head a neatly and efficiently managed bureau, he required all license applications, and a number of other routine forestry decisions, to go through his office in Manila. Until 1903, all licenses were to be approved first by local rangers, inspectors, or foresters and then sent on for final approval in Manila.<sup>41</sup> But, the distance, cost, and difficulty of travel and correspondence made such requirements extremely onerous. Ahern's requirements were partly due to his domineering managerial style, but also to the colonial context. In the United States, the position of forest ranger was a low-status position requiring far less

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<sup>40</sup> Graves, "Confidential Report," 4.

<sup>41</sup> *Report* (1903), 294.



education than the position of forester. Nevertheless, rangers could approve most uses of the forests. Only the largest capital-intensive grazing or logging operations required a forester's approval.<sup>42</sup> But, in the colonial Philippines, Ahern required greater oversight because many rangers were Filipino/as who he assumed lacked the capacity for technical work and fair or honest administration. Over time, the difficulty of maintaining strict control increased as the bureau extended its reach and attempted to incorporate more rural communities into the colonial system.

Furthermore, as Ahern attempted to control forest uses, he made adversaries out of the many of those rural people he had hoped to incorporate as reformed Philippine citizens. When applicants put in for a timber license, for instance, a bureau official was supposed to inspect the area where the licensee was to operate, but too few bureau staff were deployed over too broad an area to make inspections practicable. In 1903, Ahern decided to loosen his grip and declared that it would be permissible for the bureau's field employees "to grant at once licenses for small amounts" of forest products. He believed that this would "do away with much illegal cutting" not by altering what counted as legal and illegal forest use, but simply by allowing subordinates to grant permission.<sup>43</sup> By 1904, the provincial forestry officials could grant licenses for timber and minor forest products. But Ahern's efforts reveal a weakness in some progressive reforms during the period as well as the limits of colonial authority: social reform may not be able to be achieved through bureaucratic means. Ahern was focused on gaining administrative coverage and control through the issuance of licenses, but he failed to understand rural

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<sup>42</sup> *Use Book*, 33.

<sup>43</sup> *Report* (1903), 294.

peoples' concerns. For one who had criticized the federal government's treatment of Native Americans only a decade earlier, now that Ahern was the head of government bureau he experienced difficulty achieving both social reform and rural public support. By attempting to regulate local forest use ostensibly for the equal benefit of all forest users, Ahern and the bureau irritated those who it relied upon as the foundation of a law-abiding public.

In the bureau's attempts to reorder Philippine society along American notions of private property and land use, it concocted a hierarchy that privileged local residents over immigrants, migrants, and transient woodcutters and gatherers. The new forest regulations reflected how Americans understood rural Philippine society and how they hoped to reorder it. The bureau attempted to rework existing social relationships according to the bureau's ideal arrangements. The new forest laws stated,

“Old licensees who are residents of the town in which they desire to cut are given first consideration; new applicants living in the town in which they desire to cut are given second consideration; old licensees who are residents of the province, but not of the town in which they desire to cut are given third consideration; and nonresidents fourth consideration.”<sup>44</sup>

This schedule favored local village-level residents and “parties who can personally superintend operations in the forest.”<sup>45</sup> The system can be viewed as one way that the bureau attempted to address the needs of rural peoples for forest use by projecting its own expectations for local forest economies and communities. Ostensibly, the new laws protected resources from outsiders who, the bureau assumed, had little or no interest in

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<sup>44</sup> *Report* (1904), 19.

<sup>45</sup> *Ibid.*

local societies or economies. But the fear of trespassers and outsiders was another product of the American dedication to protecting private property from both aggressive large-scale capitalists or segregated ethnic minorities such as the Basque sheepherding communities in the West. Pinchot's *Use Book* showed a similar hierarchy in regard to grazers, such as the Basques, in the federal forest reserves.<sup>46</sup> But in the Philippines, the system may not have reflected the realities of forest use where lumber operators, buyers, and traders had for generations operated along the coasts seeking easily accessible stands of trees. This hierarchy illuminates the bureau's presumptions of forest use and what constituted the public good based upon American ideas. This hierarchy of privilege shows that the bureau did not craft fine, sophisticated tools of reform, but instead used blunt, ineffective policies to reshape forest use among communities that it did not fully understand.

Beginning in 1905, due to complaints and petitions for redress, the Bureau of Forestry revised the license system to try and meet the demands of forest users while also upholding certain use regulations. Tracing the bureau's attitude and approach to licenses from 1900 to 1905 shows that colonized people at local, village-levels shaped policy. The bureau was forced to retreat from its previous stance on forest use and instead to deploy "liberality," as Ahern termed his response to rural forest users. Ahern would have liked strict regulations for all forest use in order to demonstrate his commitment to establishing state power. But, by 1904 he became increasingly aware that local circumstances and his inability to staff the bureau as he had hoped shaped the bureau's ability to make and enforce policies. Indeed, the bureau was forced to revise its policies toward all forest

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<sup>46</sup> Steen, *The U.S. Forest Service*, 79. See also Richard White, *It's Your Misfortune and None of My Own: A New History of the American West* Reprint ed. (Norman, OK: Oklahoma University press, 1993), 225.

users. In 1905, the new Forest Act promulgated regulations that restructured the bureau's relationships with large-scale capitalists and small-scale forest users.

Though the new 1905 reforms changed how the bureau interacted with all forest users, its cooperative arrangements with large-scale capitalists shaped the future of Philippine forest policy. Even before the 1905 Forest Act reforms, the bureau was writing regulations to ease the setup and operational costs for large timber and lumber companies. For example, in 1903 the Iloilo Electric Company established a mechanized cable logging operation with a donkey engine and a sawmill on the island of Negros near the Gimogon River. The bureau assisted the company's set-up by issuing a gratuitous timber license that allowed the company to take timber and other forest products free of charge. The rationale was the same as in the United States where bureaucrats granted public assets to private companies in order to stimulate the expansion of capital that ostensibly served the public good. The Iloilo Electric Company's gratuitous license was specifically for constructing "a sawmill and buildings connected with it, as the mill and necessary buildings are a benefit to the community, and can be considered in the light of general improvements."<sup>47</sup> In the United States, "general improvements" had tended to mean road building, but the meaning could also be stretched to accommodate the needs of large operations starting up in colonial settings.

The Bureau of Forestry cooperated with large-scale enterprises because its officials assumed that they would be able to regulate how the companies used the forests. This rationale suggested that scientific forestry could aid capitalist enterprises with the process of nation-building. It stated that large capitalist developments benefitted the

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<sup>47</sup> *Report* (1904), 18.

whole society, and if they took freely from the public domain in order to provide goods to the market, then the society benefitted. In addition, holders of licenses to cut 100,000 cubic feet of timber, also known also as “company licenses,” were permitted to exceed the maximum allowed if they had “closely followed the rules laid down by the forester in charge.”<sup>48</sup> Holders of exclusive license agreements could receive permission to remove “unlimited” timber from their logging concessions if they possessed modern equipment and were on good standing with the bureau. Both the Insular Lumber Company operating in Negros Occidental and the Mindoro Lumber Company on the island of Mindoro received such permission. Such a regulation was of course a concession to capitalist enterprises, but it also revealed the optimism within scientific forestry. So long as capitalist industries followed the forestry bureau’s expert advice, no amount of cutting was likely to damage the forests.

Furthermore, the new 1905 regulations established virtual enclosures in the public forests. The Forest Act permitted the issuance of “license agreements” that allowed the exclusive privilege of “cutting, collecting, and removing forest products for a period not to exceed twenty years...”<sup>49</sup> Not only had the Forest Act rewritten the lifespan of a “company license,” but also it bequeathed an “exclusive” right to areas of the forest making license areas “practically equivalent to concessions.”<sup>50</sup> These new reforms displayed the colonial administration’s dedication to fostering capitalist development. And, the exclusive agreements extended to non-timber enterprises as well including resin

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<sup>48</sup> The Forest Act, sec IX, b1, 34.

<sup>49</sup> Ibid.

<sup>50</sup> N.A., “Lumber Industry in the Philippines,” FHS USFS Newspaper Clipping File Box 28, Folder “Philippine Islands Lumber,” n.d., 5.

and gum harvesting, rubber and gutta percha collection, and firewood collection in mangrove forests.<sup>51</sup> The bureau was committed to creating incentives for large companies, and the bureau's desires for cooperation between itself and timber capitalists were well-publicized.<sup>52</sup> Exclusive rights held profound implications by producing pseudo-enclosure laws within the public domain. The history of forest disposition in the United States made clear that private forest ownership rarely advanced the public good. The twenty-year "license agreements" created a type of modified enclosure. They permitted large timber companies to earn the maximum short-term profit while restricting the use of state land to other peoples in the Philippines. Although the Bureau of Forestry's almost total dominion over the Philippine forests appeared to present a model of state forestry that was different than the private-state-federal collaboration in the United States, the 1905 Forest Act opened areas of the Philippine forests to virtual private ownership.

The Bureau's need to bring large capitalists to the islands was not only evident at the administrative heights of the Forest Act, but also in the ways that forestry operated on the ground. For example, in 1905 the bureau did away with tree-marking due to challenging environmental conditions and protests from large operators.<sup>53</sup> Tree-marking was a primary element of selective logging – the system that the bureau had claimed was

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<sup>51</sup> *Report* (1911), 31.

<sup>52</sup> In the Indian context, K. Sivaramakrishnan describes "administrative exceptionalism" in *Modern Forests: Statemaking and Environmental Change in Colonial Eastern India* (Stanford, CA: Stanford University Press, 1999) 65, 83. However, Sivaramakrishnan's idea of exceptional forest spaces appears to open the door for several potential types of forest spaces that exist under different administrative regulations including forest reserves, indigenous reserves, parks, and the "license agreement" areas examined here. These multiple spaces may have reflected the strength of the colonial state in India. The Bureau of Forestry's establishment of pseudo-enclosures for private timber companies reveals the relative weakness of the state and the power of large-scale capitalists in the United States.

<sup>53</sup> *Report* (1905), 271-272.

necessary in most Philippine forests. The only forests that the bureau would not require selective logging were on lands that it had determined were better for agricultural purposes. Tree-marking allowed experts to select the trees to be felled based upon a tree's species and condition as well as its role in the larger forest community.<sup>54</sup> In the United States, foresters carried a special hammer set with the letters "US" that the foresters would pound into certain trees to mark them for removal. Before 1905, U.S. forestry officials in the Philippines marked trees with "FB". The practice served both lumbering and silvicultural purposes. In the United States, on private forest lands, the trained forester and the owner often surveyed the lands together and the process of marking trees for removal was collaborative. On U.S. forest reserves, the forester also worked with timber buyers to mark trees. Though tree-marking contained specific rules about trees species, diameter, age, and location, the cutters and the forester negotiated giving credence to both agendas. From a silvicultural point of view, tree-marking was essential on a selective logging tract in order to be sure that healthy reproductive trees remained to re-seed the forest.<sup>55</sup>

But in the Philippines, despite the "fair success" of tree-marking, natural obstacles, pressure from timber capitalists, and administrative difficulties ended the practice. Tree-marking for selective logging had been useful "especially on areas where the composition of the stand would otherwise allow the lumbermen to make too severe selections," Ahern noted. But the bureau abandoned tree-marking in favor of visits by

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<sup>54</sup> Gifford Pinchot, *A Primer of Forestry, Part 2: Practical Forestry* (Washington DC: GPO, 1909), 23.

<sup>55</sup> Ibid.

foresters and visual inspections.<sup>56</sup> According to the Ahern, marking was cancelled because within a short time fungus and trees' barks grew over the "FB" mark left by the bureau staff. Henry Graves agreed that "markings become obscured in a short time, being covered either by resins, moss, lichens, or rot."<sup>57</sup> They also claimed that too few inspectors and foresters existed to make a marking plan work. Instead, foresters went to the sites where large lumber operations were under way, gave advice, and reached verbal agreements with the operators about which trees could be cut and why. In fact, the lumber operators were not following the rules anyway. Ahern reported, "Concessioners, especially in the provinces far from market, have been averse to the marking system, as it requires them to exercise more care in lumbering."<sup>58</sup> The bureau claimed to keep records on large operators, and if the lumbermen strayed too far from the regulations, then the bureau would punish the operator by refusing to renew licenses the next year. But, the bureau rarely ousted any operations, and with the advent of the 1905 Forest Act reforms, punishments for large operations were made obsolete by the twenty-year license agreements. The bureau's attempts to manage and control nature and the methods of large-scale capital-intensive logging flagged as both Philippine environments and recalcitrant capitalists challenged the relatively weak power of the U.S. forestry bureau.

For the bureau, licenses were essential to define state space and account for use of the public forests. Licenses appeared to be a democratic method for defining legal and illegal forest use. And, even as licenses served as the boundary between legality and illegality, they were also a state technology that highlighted how the bureau would

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<sup>56</sup> *Report* (1905), 271.

<sup>57</sup> Graves, "Confidential Report," 16.

<sup>58</sup> *Report* (1905), 271.



attempt to fulfill its dual mandate. The bureau's need to stimulate capitalist interest and to both protect and reform Filipino/as' use of the forests meant that capitalist and rural peoples had a voice in state policy. The development of the licenses between 1900 and 1905 illuminate how the bureau responded to both groups. At the village level, rural forest users saw their worlds become more circumscribed as the bureau exerted its power. Though the peoples' anger over forestry's impositions may have reshaped some policies, it was the local political elites who benefitted by helping the bureau carry out its tasks such as surveys, licensing, surveillance, and punishment. Large-scale capitalists, on the other hand, may not have been allowed to buy forest lands, but their use of the Philippine forests began, in some areas, to look remarkably similar to private ownership in the United States.

### **Separate Public Spheres**

During the bureau's tumultuous times of 1904-1906, Ahern began to understand some of the limitations to colonial rule and he acceded to some demands of local peoples. In October 1905, the bureau granted the most radical policy to date – the free use of the public forests for all residents of the islands for five years. The free-use provision emerged as a necessary measure to cool the increasing hostility to the Bureau of Forestry.<sup>59</sup> The provision allowed for the free, non-commercial use of forest resources.<sup>60</sup> In addition to easing tensions across the archipelago, the bureau staff recognized the need for rebuilding some areas that had been torn by war and storms. It also remained too short

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<sup>59</sup> *Report* (1903), 294.

<sup>60</sup> The free use provision was part of Act 1407 that contained many revisions for various colonial bureaus.

of personnel to grant licenses, inspect potential cutting areas, police land use, and perform many other duties. Through the free use provision, the bureau endeavored to solve its own enforcement problems.

However, even though local pressures had forced the bureau to accept this compromise, Ahern used it as a way to restate the role of the Bureau of Forestry within the larger American civilizing mission. The five-year free-use provision replaced the thirteen cubic meter rule and permitted Filipino/as to,

“cut or take, or hire cut or taken, for himself from the public forests, without license and free of charge, such timber, other than timber of the first group, and such firewood, resins, and other forest products, and stone or earth, as he may require for housebuilding[sic], fencing, boatbuilding, or other personal use of himself or his family.”<sup>61</sup>

Regardless of his previous assertions about the nature of forest use, Ahern could claim that this new provision was a step toward modern forest use *and* the creation of a more civilized citizenry. He boasted “This privilege has been a great boon to the people of the provinces. Wood is now used to a large extent in rebuilding the houses of the middle and poorer classes, where nipa[palm], grass, and bamboo were formerly used.”<sup>62</sup> But whether or not large numbers of Filipino/a families rebuilt houses that were destroyed in storms or by war with wood, the system showed the limits of U.S. imperial power. Moreover, with the phrase “cut or take, or hire cut or taken” in the free-use provision, the new law implicitly supported traditional and customary contract systems by which woodcutters operated out of the view of licensees. The new free-use privilege meant that no names

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<sup>61</sup> *Report* (1906), 10-11.

<sup>62</sup> *Ibid.*, 11.

would be recorded and therefore no accountability existed if woodcutters removed first group wood or used unapproved logging methods.

The free-use provision was in effect for little more than one year when the second annual Philippine Foresters' Conference convened in Manila and the "important lumbermen" charged the free-use provision with creating a nuisance. In 1907, the second annual Foresters' Conference welcomed representatives of the bureaus of Revenue, Agriculture, and Public Lands, as well as members of the Philippine Lumbermen's Association (PLA). During the previous year, some large operators complained about the free-use privilege and Ahern assigned a committee to investigate. According to the three foresters who were charged with investigating the free-use issue, Filipino/as "should have a similar privilege to that granted settlers in the United States."<sup>63</sup> But the problem in the Philippines was one of enforcement. They did not deny rural Filipino/as' rights to free use of forest resources, but they claimed that without the ability to police the woods, Filipino/as ran roughshod over private timber concessions. Furthermore, after listening to the lumbermen and some colonial officials complain, the foresters concluded that the single limitation to free use – the prized first group timbers such as narra and molave – was insufficient to protect the public forests. They noted that the Dipterocarp species, which made up the third and fourth groups and were largely used for construction, were being attacked by rural folk who threatened the islands' "economic development." They argued,

"Rapid economic development depends upon cheap construction timbers, and not on fancy woods or expensive woods suited to special uses. Timber[s]...for Philippine industrial development are found in the existing

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<sup>63</sup> *Report* (1907), 10.

forests but are being rapidly destroyed by the present unrestricted cutting.”<sup>64</sup>

The bureaucrats and the PLA imagined that a free-use privilege that had been in effect for less than one year was leading to the destruction of the Philippines’ forests. I include the full text of the last portion of their report to demonstrate the drama and the pointed critique expressed by the bureau’s foresters:

“We are required to-day to carefully inspect and regulate the cutting of one thousand timber licensees whose work is, in the main, satisfactory and is not materially injuring the forests, and we are forbidden to interfere with the cutting of a population of seven millions, of whom one and one-half millions are grown males. These men may enter the forests, cut and waste at will the principle timber resources of the Islands.

The Bureau of Forestry was called into existence to perpetuate the forests by wise use; to give to the people of these Islands timber and fuel supplies for all time, and to safeguard its agriculture by caring for watershed forests. Under the present law the hands of the Bureau are tied, and the policy as embodied in this law, allowing the free unrestricted use of timber, if persisted in, means the ultimate waste and destruction of the Islands’ timber resources, and a checking of its future economic development.”<sup>65</sup>

The bureau’s opinion of the free-use privilege arose from fears that capitalists might be dissuaded from investing in the Philippines more than the facts of forest destruction. In less than one year, the news of the provision had only just reached some provinces, and personal, non-commercial forest use, even by “one and one-half millions” of “grown males” had not initiated widespread deforestation. Rather, the concerned lumbermen took

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<sup>64</sup> Ibid.

<sup>65</sup> Ibid.

issue with an unregulated and undefined public that could operate without supervision in and around their logging tracts.

The issue at hand was how to establish separate spheres of forest use, and the PLA, in its effort to curb local forest use, had conservationist logic on its side. Forestry officials had remained concerned about the overuse of certain areas of the public forests since the Schurman Commission investigated Spanish methods. In addition to holding private property as sacred, the Commission and forestry officials believed that overuse of certain forests, those on hillsides or near to towns and roads for example, led to environmental degradation. And, of course, the PLA demanded assurances from the bureau that their logging tracts would be protected from trespass by other forest users. In this way, the enclosure status of large operators' license agreements set some areas of forests lands, namely those best suited for large-scale logging, apart from the remainder of the public forests. License agreement areas were not technically privatized, and yet the colonial administration, the Bureau of Forestry, and the PLA agreed that rural forest users must not be allowed to take products from those areas. Licenses agreement tracts benefitted the public in another way beyond acting simply as a reserve for products, the bureau maintained. Large-logging tracts ostensibly benefitted the public because they developed the silvicultural potential of the forest for future generations, added consumer products to the markets, bolstered trade relations for a stronger centralized economy, and built infrastructure that uplifted rural areas. The bureau believed that it could not allow rural Filipino/as to spoil areas that held such potential for enriching the public forests. In the name of the public good, the bureau requested that the colonial administration and the Philippine Assembly commit to the "speedy enactment" of an amendment to free-use

privileges.<sup>66</sup> As with other shifts in forest regulations, the bureau was forced to bend to the local realities of colonial rule.

In 1907, the colonial government passed the Communal Forest Act to address the issue of free use by designating certain areas of the public forests as “communal forests.”<sup>67</sup> This compromise allowed the Bureau to assign the forests near to villages and towns for residents’ free use. Instead of opening the general forests for free use, only the areas designated by the Bureau could be used as communal free use zones. The communal forest provision had been part of the Spanish land laws (*legua comunal*), but the Americans had ceased to utilize it disliking the idea of communal use over individual licenses and private property.<sup>68</sup> Nevertheless, within the first two years of the Communal Forest Act the bureau investigated 133 applications for communal forests, though it only approved nineteen each year. By 1923 the islands contained 1,125 communal forests totaling nearly 163,000 hectares(ha) spread across 593 “municipalities.” Each established communal forest represented large investment of the bureau’s time and energies. Nonetheless, the new communal forests only reflected a portion of all communities who requested consideration. At least 900 villages were denied their request or had their communal forest temporarily revoked for “public calamities,” or the misuse of forest lands.<sup>69</sup> In these cases, traditional forest use had become criminal. Likely many others never made a request. Throughout the remainder of the U.S. colonial period, the

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<sup>66</sup> *Report* (1908), 10-11; *Report* (1909), 5.

<sup>67</sup> *Report of the Philippine Commission 1908, Part 2* (Washington DC: GPO, 1909), 161.

<sup>68</sup> George P. Ahern, *Spanish Public Land Laws in the Philippines and their History to 1898*, translated by Gregorio Basa (Washington DC: GPO, 1901), 16-17.

<sup>69</sup> *Report* (1923), 113-115.

bureau continued to respond to requests from towns, villages, and barrios for communal forest designations.

The Communal Forest Act, like the license program, responded primarily to the demands of large-scale capitalists rather than to the needs of rural Filipino/as. The large timber and lumber operations had feared that Filipino/a forest users would encroach upon the areas set apart by exclusive license agreements.<sup>70</sup> The Act stated that any forest user who wished to collect or cut from an area under a license agreement, was legally required to secure permission from the licensee in order to enter and use products from the exclusive area. This provision provided large lumber operators with peace of mind and reinforced enclosure status on public land by making Filipino/a forest users subject to the boundaries of exclusive license agreements. The bureau used communal forests to bridge the gap between local people in the provinces who required forest products and the timber interests and forestry officials who demanded more comprehensive surveillance and accountability.

The communal forests helped to establish separate public spheres so that different forest users would not come into contact. Communal forests also helped secure the bureau's authority over forest use. If licensees had been too difficult to police, then perhaps forest zones would be easier; lands at least did not move. But the free use privilege, once unleashed, had been impossible to control. Many rural peoples already assumed the free use of their forests, and once the bureau recognized the principle that the public forests should be open to rural Filipino/as for reconstruction and

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<sup>70</sup> *Report* (1909), 10.

improvements, communal forests had little power to rein in many rural forest users.<sup>71</sup>

Ahern and the forestry officials may have imagined that the creation of communal forests solved their problems. But they failed to understand how rural Filipino/as related to the forests. Rather, the Communal Forest Act symbolized large-scale capitalists' influence within the colonial administration. This Act could appear to satisfy the dual mandate; it fostered greater capitalist involvement while seeming to offer rural Filipino/as access to subsistence resources.<sup>72</sup>

### ***Kaiñgins* and a Nationalist Narrative of Threat**

After 1904, as forestry officials debated land use regulations, licenses, and recommendations to the Philippine government, *kaiñgins* emerged as a primary regulatory concern. Shifting agriculturalists, called *kaiñgineros* by American authorities, moved into the forests and cut trees and foliage prior to the dry season (March through May). During the dry season, they burned the trees and other biomass to create open up the forest canopy and enrich the soil. (Figure 4.1) Then, they planted rice, corn, potatoes (*camotes*), and other crops for both subsistence and commerce. After two to four years, *kaiñgin* soils were generally depleted of nutrients and the farmers moved to other areas of the forest. Moreover, in the Philippines, cogon grass (*Imparata arundinacea*) grows up quickly in the cleared areas and outcompetes crops.<sup>73</sup> The grass was particularly difficult to remove, and in addition to the soil's diminishing nutrients, the invasive cogon grass

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<sup>71</sup> *Report* (1911), 22.

<sup>72</sup> S. Ravi Rajan describes a similar case in India in *Modernizing Nature*, 93.

<sup>73</sup> Michael Williams, *Deforesting the Earth: From Prehistory to Global Crisis* (Chicago: The University of Chicago Press, 2006), 319-325.



pushed farmers out of the *kaiñgins*.<sup>74</sup> *Kaiñgins* represented a particular interaction between Philippine peoples and their natural environment. They used the nutrients in forest biomass to enrich the soil for agriculture. By burning the forest, they made the land better for their needs. And, nature responded also in particular ways: by growing grasses that covered the denuded land. But this natural/cultural pattern was one that American colonial authorities could not abide.

In addition to the natural effects of *kaiñgins*, forestry authorities also disliked their social reasons for being. *Kaiñgins* were part of complex local economies though rural farmers had different reasons for making them across the archipelago. In some cases, *kaiñgin*-makers lived in mountainous or upland regions where they cleared areas of the forests in regular, shifting patterns that included leaving plots of land fallow for years. In the lowlands, shifting agriculture often included migrants and share-croppers whose “swidden” plots of lands were more often temporary.<sup>75</sup> Many *kaiñgin*-makers took on shifting agriculture to pay off debts at local villages. In other cases, *kaiñgins* were part of share-cropping systems that Progressives disliked because rural farmers who could be settling the land as individual landholders were bound to elites.<sup>76</sup> Americans grouped all forms of shifting agriculture together and believed that *kaiñgins* did not represent a valid form of capitalist enterprise because they were irregular, temporary, and usually a family or village-based undertaking. U.S. forestry officials disliked every aspect of *kaiñgins*

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<sup>74</sup> Ben Wallace, *The Changing Village Environment in Southeast Asia: Applied Anthropology and Environmental Reclamation in the Northern Philippines* (New York: Routledge, 2013).

<sup>75</sup> For an understanding of the problematic nature of the term, *kaiñgin*, see Gerhard van der Top, *The Social Dynamics of Deforestation in the Philippines: Actions, Options, and Motivations* (Copenhagen: Nordic Institute of Asian Studies, 2002), 125.

<sup>76</sup> *Report* (1910), 9.

from the farmers' nomadic tendencies, to the burning of the forest, to the tenant/sharecrop system that sustained many *kaiñgin* economies. In every respect *kaiñgins* represented the pre-modern, unregulated, and inherently localized forest use that the bureau hoped to stop.



Figure 4.1 This photo shows a *kaiñgin* after burning but before crops or cogon grass have grown. The photographs that bureau employees took of *kaiñgins* were intended to show the waste and chaos that shifting agriculturalists brought into the forests.

*Kaiñgins* were not always the American foresters' main concerns. In 1900, as Ahern and others set up the bureau, the forestry officials worried more over destruction from industrial logging and the transformation into cash-crop plantations. As Ahern stated early on about deforestation on islands such as Cebu and Panay, "The line of destruction appears to follow the line of civilization." In other words, market-oriented

agriculture and cash-crop plantations were to blame for deforestation, not *kaiñgins*.<sup>77</sup> Furthermore, intent on demonstrating scientific forestry's effectiveness to both spur economic development and protect forests, Ahern asked in his first report "Can the forests of the Philippines be devastated?" He concluded that they could not because of the physical obstacles to rapid development and timber extraction, the bureau's expertise and regulations, and because commodification had placed only a few tree species on the market.<sup>78</sup> Though some scholars have treated suspicion and persecution of rural peoples by state forestry agencies as inevitable, the Progressives tended to fear all those who did not exhibit efficiency and order. Regardless of historian Dennis Roth's assertion that American foresters "naturally fastened on the slash and burn agriculturalists as the main culprits in deforestation," nowhere in the 132-page *Special Report* to the Philippine Commission were *kaiñgins* noted.<sup>79</sup> Rather, the bureau chief spent his early years in the islands alleviating fears that industrial logging would devastate the woods as it had in United States.

However, between 1904 and 1907 Ahern championed increases in industrial extraction, and in 1906 he labeled *kaiñgin*-making as the "most destructive agency in the Philippine forests." The Philippine Lumbermen's Association's complaints and the bureau officials' observations drove the shift in the bureau's outlook.<sup>80</sup> Both the PLA and the bureau believed that *kaiñgin* farmers undermined the U.S. civilizing mission. The timbermen complained that *kaiñgineros* destroyed the profitable first-group timber, while

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<sup>77</sup> *Report* (1902), 470; *Report* (1905), 276.

<sup>78</sup> *Special Report* (1901), 52.

<sup>79</sup> Roth, "Philippine Forests and Forestry," in Tucker, 38.

<sup>80</sup> *Report* (1906), 11.

the bureau officials believed that *kaiñgineros* threatened their authority over the forests. By creating *kaiñgins*, transient farmers preempted the bureau's duty to classify lands by turning forests into farms and clearings for the foreseeable future. These dual concerns over unregulated *kaiñgins* coalesced in a narrative that *kaiñgins* and those who made them represented "the greatest problem that confronts the Bureau of Forestry."<sup>81</sup>

Though the narrative of *kaiñgins* as the chief public menace developed through contingent historical events, Roth was correct that U.S. agents needed little encouragement to believe that unregulated, unsupervised, and unscientific forest use constituted a menace.<sup>82</sup> In fact, American forestry advocates had maintained a distrust of rural peoples since George Perkins Marsh had bemoaned the "slovenly husbandry of the border settler" and the "improvident habits of the backwoodsman" in *Man and Nature* (1864).<sup>83</sup> After Marsh, other Americans continued to fault rural folk for forest loss. Frederick Hough wrote in 1877 that "The experiences of pioneer life, as regards the timber, presents little that can be commended and much that can be blamed."<sup>84</sup> And in the United States, as in the Philippines, forestry officers believed that it was rural peoples' tendencies to move around, "the want of fixedness" as Marsh had it, that led rural people to damage the forests. Nevertheless, though suspicion of rural folk may have produced what historian Richard Drayton called "The Myth of the Environmentally Profligate

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<sup>81</sup> *Report* (1909), 8; Lesley Potter makes a similar point in "Forests versus Agriculture," 61.

<sup>82</sup> Roth, "Philippine Forests and Forestry," in Tucker, 38.

<sup>83</sup> George Perkins Marsh, *Man and Nature or, Physical Geography Modified by Human Action* (Cambridge, MA: The Belknap Press of Harvard University Press, 1965), 233 and 257 respectively. Karl Jacoby makes this point in *Crimes Against Nature: Squatters, Poachers, Thieves, and the Hidden History of American Conservation* (Berkeley: University of California Press, 2001), 198.

<sup>84</sup> Franklin Hough, *Report on Forestry* (Washington DC: GPO, 1878), 8.

Native,” policies regarding forest use and the enforcement of policies varied according to local social, economic, and environmental conditions.<sup>85</sup>

The Americans’ initial approach to *kaiñgins* drew directly on the two Spanish policies already mentioned: one that prohibited *kaiñgins* and another that attempted to dispel the motivations for making them. A prohibition on *kaiñgins* had existed since 1874, shortly after the creation of the *Inspeccion de Montes*. The *kaiñgin* prohibition began with simple bans on “clearing land by fire”; fires served as the focal point of regulation not the act of *kaiñgin*-making. Because late nineteenth and early twentieth century scientific foresters, both in Spain and in the United States, held fire to be the most dangerous element in the forests, *kaiñgins* were subordinated to fire protection. Colonial foresters therefore often did not understand the extent to which *kaiñgins* existed as part of local Philippine forest economies, but rather focused early laws on prohibiting forest fires. But, in 1876, the Spanish Crown created a new law that addressed farmers’ presumed motivations for creating *kaiñgins*. The 1876 “Royal Order” declared “that the State is prepared to cede lands for agricultural purposes at a low price to natives.” According to Gregorio Basa, who translated the *Spanish Public Land Laws* for Ahern in 1901, the Spanish colonial officials “hoped that agriculture would be greatly extended, and arbitrary appropriations and clearing by fire would be avoided.”<sup>86</sup> The Spanish authorities believed that rural people made *kaiñgins* because of a lack of rural land ownership. And, in some cases, this was correct. Rural people did take advantage of opportunities to own land under both the Spanish and American colonial administrations.

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<sup>85</sup> Richard Drayton, *Nature’s Government: Science, Imperial Britain, and the ‘Improvement’ of the World* (New Haven, CT: Yale University Press, 2000), 236.

<sup>86</sup> Ahern, *Spanish Public Land Laws*, 38.

However, *kaiñgin*-making served a number of different purposes including temporary needs, debt relief, and transient or transitional labor activities. Not all who made or worked *kaiñgins* did so because they were land poor and wished to own land in perpetuity as the Spaniards and Americans generally assumed. Nevertheless, American colonial officials took their cues from their Spanish predecessors and used a combination of prohibition and cheap land – the proverbial stick and carrot – to end the act of “clearing by fire.”

But even though the Spanish Land Laws addressed both cause and effect, U.S. forestry officials paid most attention to “clearings made by fire” and less attention to the supposed motivations for making them. For U.S.-trained foresters, fire represented the larger, more important threat to the forests than did small farmers. Fire also stood out as the principle threat to American forests, and before the Americans understood the differences between the arid forests of the American West and the damp Philippine forests, forest fires appeared threatening. Fires had come to represent the greatest losses in American natural wealth since the rise of forestry advocacy in the United States. And, by 1900 fire was generating increasing amounts of attention as forestry advocates believed that forest conflagrations amounted to setting the nation’s precious capital ablaze. By 1908 in the United States, fire protection had become one of U.S. foresters’ central concerns, and the 1911 Weeks Act established a national policy for fire protection (even as some forest scientists warned that fire may be necessary for continued ecological health).<sup>87</sup> And yet, in the Philippines fire rarely presented a cause for concern. Foresters

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<sup>87</sup> Nancy Langston, *Forest Dreams, Forest Nightmares: The Paradox of Old Growth in the Inland West* (Seattle: University of Washington Press, 1995), 132-133; William G. Robbins, *American Forestry: A History of National, States, and Private Cooperation* (Lincoln: University of Nebraska Press, 1985) 34-

learned that “owing to the moist conditions” in most areas of the Philippines, “forest fires are unable to spread through the virgin stand[s].”<sup>88</sup> Even *kaiñgineros* who used fire intentionally had to wait for the dry season in order to burn the slash and pilings. Only in the mountains of Benguet where lightning sometimes ignited the region’s pine trees during dry seasons did Philippine forest fires behave like those in the American West. And even the Benguet fires’ effects were limited. Nevertheless, U.S. forestry officials in the Philippines initially focused on fire prevention over the underlying social and economic needs for *kaiñgins*.

In 1903, Foresters William Maule and William Klemme conducted inspections of provinces on west and east Luzon respectively and reported for the first time on the presence of “caingins.”<sup>89</sup> During Maule’s inspections of the proposed logging areas in Bataan and Zambales, and Klemme’s simultaneous trip to Tayabas the men noted the occurrence of *kaiñgins*, but said little about them. Klemme merely noted that fire had been used “to clear up old ‘caingins’ in the months of March and April.” He noted, “No damage was done to the surrounding forests” revealing a lack of concern for the effects of this particular use of the forest on the remaining stands of trees.<sup>90</sup> Maule said more about them. He recognized them as a problem, and recommended that “stringent measures should be adopted to prevent” *kaiñgins*. He observed that *kaiñgin*-making threatened timber in “the immediate area of Subic” where “practically virgin stands are still found.” But, he also equivocated noting that many *kaiñgins* had been made “farther

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84; Stephen J. Pyne, *Fire in American: A Cultural History of Wildland and Rural Fire* (Seattle: University of Washington Press, 1997).

<sup>88</sup> *Report* (1905), 276.

<sup>89</sup> *Report* (1904), 22-32.

<sup>90</sup> *Ibid.*, 31.

inland where the greater part of the stand is not better than the third group, and, according to present methods can not be removed profitably.”<sup>91</sup> Maule appeared to be open to some accommodation on the *kaiñgin* prohibition and he understood that total restriction was not feasible. If stands of third group or lower timber could not be profitably removed anyway, then why not permit *kaiñgins*, he seemed to suggest. He advised that “owing to various conditions of locality as affecting their value, and the conditions of natives making them, it seems that one general law with the idea of solving the question would be too sweeping to be effective.”<sup>92</sup> Maule’s warning was correct that a strict prohibition would not end the practice of *kaiñgin*-making.

During 1904 and 1905, Ahern and the bureau recognized that clearings in the forests had particular characteristics beyond the dangers that *kaiñgin* fires may cause. Forestry officials increased their surveys of forest hinterlands and encountered more clearings. Similarly, licensed timber cutters traveled to their logging areas and found that shifting agriculturalists had established *kaiñgins* on designated logging tracts. Although, both Bureau employees and foreign logging operators disliked the presence of *kaiñgins*, Ahern heeded Maule’s advice and sought a resolution beside simple prohibition. The growing rural unrest that Henry Graves had noted required a policy that would appease those embedded within *kaiñgin* economies. For example, Ahern believed that in many cases *kaiñgins* were corollaries to “severe thinnings made on lumbered areas,” and thereby appreciating the linkage between large-scale capitalist production and *kaiñgineros*. The thinned forest was easier for *kaiñgin*-makers to transform into

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<sup>91</sup> *Report* (1904), 26-27. For the “group” ranking system of tree species see Chapter 2.

<sup>92</sup> *Ibid.*



agricultural plots. And, Ahern began to appreciate that *kaiñgins* were even appropriate in some circumstances, such as when bureau foresters found that the land proved better suited for agriculture than for forests. Yet, Ahern continued to make policy with input from the PLA, and he was committed to preserving the boundaries of exclusive licenses. As with other regulatory measures, Ahern placed his faith in a licensing program for *kaiñgineros* believing that licenses would separate the cooperative, law-abiding forest user from those who disobeyed the licenses' requirements thereby constituting a threat to the public.

The 1904 Forest Act stated that *kaiñgins* were permissible on both public and private forest lands if the *kaiñgin*-maker applied for and received a license to establish a *kaiñgin*.<sup>93</sup> Licenses legalized practices which the bureau could not police anyway. The licenses also worked to bring the unregulated forest user into the bureau's management schemes. The *kaiñgin* license system was based upon some of the bureau's most fundamental regulatory notions such as centralized oversight, environmental study and classifications, and land tenure reforms. Although such regulations were self-evident to U.S. forestry officials, they contravened most customary rural forest use in the Philippines. The following three aspects of the *kaiñgin* license system were the most significant elements of the bureau's management scheme and its relation to the rural citizenry. But, although the following regulations were part "high modernist" principles

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<sup>93</sup> Section 25 of The Forest Act and Forest Regulation XXV deal with *kaiñgins*, permits, punishments, etc. in *The Forest Manual* (Manila: Bureau of Public Printing, 1904).

of order, simplicity, and centralization, they nonetheless increased the disorder, complexity, and localized variations of the bureau's *kaiñgin* problem.<sup>94</sup>

First, as with other forest laws and licenses, Ahern believed that legal and illegal uses of the forests could be simply demarcated by a centralized authority's administrative outlook, regulations, surveillance, and punishments. For example, the application for a *kaiñgin* permit required the applicant to know and to list, in the administration's terms, the names of the barrio, municipality, and province in which the proposed *kaiñgin* was to be located. It also required the applicant to state the size, in meters, of the proposed *kaiñgin*. And, finally, it required the license holder to assume legal responsibility for any damage to the neighboring forests, whether public or private, and to serve as a fire warden for the *kaiñgin* and its surroundings. Whereas *kaiñgins* had largely existed outside of colonial control, these regulations brought the *kaiñgin*-maker directly into the service of the colonial government.<sup>95</sup> While *kaiñgineros* may have known quite well where their *kaiñgins* were to be, such requirements meant that the farmers had to know colonial nomenclature and to use English well enough to fill out the form. Or, more likely, the *kaiñgineros* required assistance from the forest officers, local officials, or the village-based entrepreneurs who had enlisted the *kaiñgin*-farmers in the first place. In any event, the *kaiñgin*-makers were forced to place themselves under the scrutiny and further control of local and colonial officials simply to apply for a license. This guaranteed a system of surveillance, produced more work, and required state assistance for the

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<sup>94</sup> Scott, *Seeing Like a State*, 4-6.

<sup>95</sup> *Report* (1905), 279-280.

*kaiñgineros* at the outset, making it less likely that *kaiñgineros* would follow regulations correctly, if at all.

Second, licensed *kaiñgins* were based upon the foresters' notions that certain land types were naturally endowed for growing crops or forests and that a national landscape contained a set proportion of agricultural land to forests depending upon the economic needs of the polity. Colonial officials agreed that academically-trained foresters were the best agents to make such determinations. It was not foresters' ecological sense and forestry training alone, but also their keen attention to local, regional, and national/colonial forest economics that allowed them to make decisions about the land's best uses. Ideally, a forestry officer would travel to the site of the future *kaiñgin* and certify that the land was indeed better for agricultural purposes than for forests. If the land was not, then the officer would select another, more appropriate site. Moreover, the bureau took for granted that *kaiñgins* would only be located in forests composed of trees of the third and inferior groups, and the forest officer was required to record which species of trees would be felled for the *kaiñgin*. For Ahern, the best situation, if in fact a *kaiñgin* had to be made, was for *kaiñgineros* to occupy areas that had already been thinned by lumbermen and for them to be restricted to third-group timber and lower. These determinations placed *kaiñgins*' locations under the bureau's control and regarded capitalists' ventures as primary.

Third, the American concept of land ownership, public land use, and homesteads fit poorly in the heavily forested Philippines where land tenure had long traditions that did not include titles or widespread rural land ownership. Both *kaiñgineros* who hoped to own their own land and those who wished to engage in shifting agriculture were often

confounded by the permit application process. For many *kaiñgin* farmers, the elaborate permit application, the visit by the governmental official, and the succeeding permit itself appeared to convey ownership. Confusion over the status of the land immediately erupted in many cases, and when *kaiñgin* applicants and license holders were told that the license was for use but did not indicate ownership, applications for *kaiñgins* dropped off precipitously.<sup>96</sup> Indeed, the application and the process for a forest officer to inspect a piece of the public domain and to determine if it was a possible site for a homestead under the Public Land Act was much like the those for a *kaiñgin*. Both required similar interactions with government officials, knowledge of the tree species and quantity as well as the crops to be grown, and exchanges with the colonial government of similar official documents. The U.S. colonial bureaucracy and the forestry regulations and land classification rationales were not intuitive and confusion was commonplace.

As with other aspects of high modernist state management, licenses were meant to simplify and order relationships between the people and the state. But, as was often the case with such efforts, Ahern's *kaiñgin* licensing program created more problems than it solved. For every *kaiñgin*-maker who applied for a permit, many hundreds more did not because of refusal, ignorance, or the lack of available officials to conduct investigations. The bureau also had to enforce punishments for illegal *kaiñgins*. The bureau confiscated crops, charged double the tax rate for illegally cut or burned timber, and sent those *kaiñgin*-makers who could not pay fines to jail. Furthermore, the bureau regarded their arrests and other punishments as successes against the practice of *kaiñgin*-making, even though both illegal *kaiñgins* and applications for legal *kaiñgins* increased almost every

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<sup>96</sup> Graves, "Confidential Report," 33.

year after 1905. The practice of *kaiñgin*-making was not slowing, but rather classes of farmers emerged who were divided by their relationship to the state. Because the bureau imagined illegal *kaiñgin*-makers simply as violators of public space, resources, and laws instead of actors in necessary and customary local economies, a narrative began to emerge that illegal *kaiñgineros* were enemies to the Philippines and its people.

In 1905, Ahern articulated the bureau's position on *kaiñgins* in the most comprehensive work to date on "clearings or forest openings" and "causes leading to clearing." He concluded that some areas of forests should be cleared for agriculture, but he also drew a line between those clearings made for homesteads or commercial agriculture and those made for *kaiñgins*. Though Ahern was not averse to changing forest land into agricultural land, he declared that "where crops of a permanent character, such as cocoanut, abaca, maguey, etc., are to be grown it will be necessary that forest areas be cleared." But, whereas homestead or commercial agriculture enriched the overall character and usefulness of the islands' total land composition, Ahern asserted "By far the greater damage is wrought by transitory clearings, such as are planted in mountain rice, corn, and camotes." Nevertheless, some *kaiñgins* could be allowed on logged over areas where only inferior species remained. Also, wasteland areas or other areas of the forests that contained only low-value timbers, but nonetheless held humus-rich soil, could be made into agricultural plots. During the bureau's reorganization during 1904 and 1905, Ahern and the forestry staff began to regard *kaiñgins*, the transient nature of their makers, the non-commercial crops that they produced, and their tendency to turn into "cogonales" (areas of cogon grass) as serious threats to the public forests requiring

systematic regulation and abolition.<sup>97</sup> Yet, in Ahern's attempt to forge a middle path between protective policy and the peoples' needs, *kaiñgin*-making remained legitimate if licenses were obtained.

However, the shortage of forestry officers meant that it was only a short time before problems associated with *kaiñgins* surpassed the bureau's ability to police them. Due to the shortage of trained field personnel and the increasing number of duties that the bureau assumed, Ahern granted local, municipal presidents the authority to issue licenses for *kaiñgins*. In 1905, local municipal presidents authorized 519 of the 1,002 *kaiñgin* permits in the islands simply because the bureau had not the staff to cover all requests for permits.<sup>98</sup> In many cases, the presence of local authorities allowed customary *kaiñgin* practices to continue. In 1908, the Executive Secretary for the provincial governor of Mindoro reported,

“The caingin in the public forest is forbidden by law, but, with one forestry official to three provinces, and presidentes and concilors who probably furnish the seed (for which they get no less than half the crop), the enforcement of the law is another matter.”<sup>99</sup>

Because many *kaiñgins* were part of local economies and social ties within which village heads, presidents, and other governmental officials occupied powerful and influential offices, local political officials did little to stop the forest clearings.

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<sup>97</sup> *Report* (1905), 276-281.

<sup>98</sup> *Report* (1905), 279.

<sup>99</sup> *Report* (1910), 9.

In the issue of enforcement too, local officials resisted colonial oversight and radical changes that the bureau tried to bring to *kaiñgin* economies. The Bureau of Forestry reported *kaiñgineros* to local fiscal agents for payment of fines, but many local fiscal agents reduced fines to nominal amounts.<sup>100</sup> According to the forester in charge of the Visayas district, 96 violators of the “caingin law” were reported to local fiscal agents during 1911 where they were to be charged double the timber tax rates for all timber felled in their *kaiñgins*. The fiscal agent in Capiz oversaw 80 of these cases, and the combined sum of all fines, reported the forester, should have equaled P620,000 (\$310,000).<sup>101</sup> However, the local fiscal agent failed to resolve most of the claims and the fines for *kaiñgin*-making that were assessed were for drastically reduced amounts. In one case a forester reported that “the invoice which amounts to P10,644.80 was sent to the provincial fiscal of Iloilo Province, and action had been and reported showing that the accused has been fined P10.”<sup>102</sup> The forester continued to report similar occurrences in which the local fiscal either failed to act or severely reduced the fine amounts on *kaiñgin*-makers. Such acts represented the limits of colonial control and the power of local elites to control lands, offices, and agricultural producers.<sup>103</sup> However, the ability of local elites to maintain this power did not last long. What the state lacked in personnel, it made up

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<sup>100</sup> *Report* (1912), 29-30; *Report* (1913), 22.

<sup>101</sup> The 1903 Philippine Coinage Act made the Philippine peso exactly half of the American dollar. Edwin Walter Kemmerer, *Modern Currency Reforms: A History and Discussion of Recent Currency Reforms in India, Porto Rico, Philippine Islands, Straights Settlements, and Mexico* (New York: Macmillan Co., 1916).

<sup>102</sup> *Report* (1913), 22-23.

<sup>103</sup> For a broader discussion of local rule and politics including “corruption” see Julian Go, “The Chains of Empire: State Building and ‘Political Education’ in Puerto Rico and the Philippines,” in Julian Go and Anne L. Foster eds., *The American Colonial State in the Philippines: Global Perspectives* (Durham, NC: Duke University Press, 2003), 191-194; Brian Fegan, “The Social History of a Central Luzon Barrio,” in Alfred W. McCoy and Ed. C. de Jesus eds., *Philippine Social History: Global Trade and Local Transformations* (Honolulu: University Press of Hawaii, 1982), 97-99.

for in surveillance. Lumber operators, local informants, forest rangers, and others reported local abuses of forestry regulations, and by 1906 the bureau was planning ways to place local authority under stricter control by forestry agents.<sup>104</sup> By 1907, municipal presidents had been stripped of their ability to grant *kaiñgin* permits on public lands (though they retained the authority to grant permits for *kaiñgins* on private lands).

The most potent influence upon the bureau regarding the topic of *kaiñgins* was the PLA, and its complaints and recommendations helped to shape policy and the narrative of a public threat during 1907 and 1908. The PLA had helped the bureau refine regulations relating to “restrictions of classes of timber and licenses,” but according to a letter dated July 18, 1906, the PLA believed “that there is still something to do and it is to solve the difficult question of caingins, which is the purport of this petition.”<sup>105</sup> The PLA’s main concern was that “At the present time the caingin is made in the center of the woods where the lumberman has not penetrated and it has been occasionally seen that the more he penetrates into the forests the less timber he finds.”<sup>106</sup> Like Ahern, the PLA did not hope to prohibit all *kaiñgins*, which the PLA admitted, were “difficult to stop[...]in this country.” Rather, the PLA hoped to persuade the bureau to commit to propaganda campaigns, better enforcement, and the empowerment of lumbermen themselves to reform *kaiñgin*-making into a very different enterprise than it was. Specifically, the PLA wanted to prevent *kaiñgins* that were not dedicated to commercial agriculture and make virgin stands of timber off limits to all *kaiñgineros* because “the way in which they are being carried on at the present time represents the immediate destruction of the forests.”

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<sup>104</sup> *Report*, (1906), 12-13.

<sup>105</sup> *Report*, (1906), 12.

<sup>106</sup> *Ibid.*



The PLA's letter endorsed the continuance of agricultural clearings made for cash-crops because they represented "a benefit to the country." The PLA suggested that a

"committee of wealthy and prominent persons [will] be elected in every town, under the presidency of the forester of the province, which committee should be authorized to grant caingins whenever the lands on which same are made are for the planting of permanent crops, such as hemp, cocoanuts, gums, etc."

Moreover, the PLA wished to see old *kaiñgins*, or "cogon lands," reused as some *kaiñgineros* did. In effect, the PLA hoped to bring *kaiñgins* into a forest management system that the PLA was helping to define. Moreover, the PLA wanted to see *kaiñgins* used for cash-crop production. Not perceiving the complex reasons that *kaiñgineros* made clearings in the ways that they did, the PLA hoped to use the state's power to remove *kaiñgin*-makers from the timbered areas of the forests and restrict them specific, designated areas.<sup>107</sup>

The bureau also maintained the belief that *kaiñgins* were merely symptoms of a pre-modern and irrational people who knew no better ways to use the forests. Similar to the way the PLA imagined that *kaiñgins* could be reformed into cash-crop production, the bureau likewise believed that the *kaiñgins* could be remade into homesteads.<sup>108</sup>

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<sup>107</sup> Report (1906), 12.

<sup>108</sup> For agrarian reform and Homestead law in the Philippines see Teresa Marie Ventura, "American Empire, Agrarian Reform, and the Problem of Tropical Nature in the Philippines, 1898-1916" (dissertation, Columbia University, 2009); Lesley Potter, "Forests versus Agriculture: Colonial Forest Services, Environmental Ideas and the Regulation of Land-use Change in Southeast Asia," in Lye Tuck-Po, Will de Jong, Abe Ken-ichi, eds. *The Political Ecology of Tropical Forests in Southeast Asia: Historical Perspectives* (Victoria, Australia: Trans-Pacific Press, 2003), 54-56; Benedict J. Kerkvliet, *The Huk Rebellion: A Study of Peasant Revolt in the Philippines* (Berkeley: University of California Press, 1977), 35-36; Marshall S. McLennan, "Land and Tenancy in the Central Luzon Plain," *Philippine Studies* 17 (October 1969), 673-674; Glenn Anthony May, *Social Engineering in the Philippines: The*

Homesteads represented American notions of a scientific response to the landless poor.<sup>109</sup>

If Filipino/as could only have their own lands on which to grow crops, then *kaiñgins* would cease to be needed, the colonial officials thought. In 1907, Ahern argued “There is no further necessity for granting caingin permits; the Homestead Law is very liberal and gives any resident of the Philippine Islands much latitude in selecting a location.”<sup>110</sup> For Ahern, the arrangement appeared simple. “The only persons allowed to grant caingins on public lands (forest officers) will assist any resident in securing a homestead rather than granting a caingin permit.”<sup>111</sup> That rural people did begin requesting the bureau’s help in selecting and acquiring homesteads seemed to confirm the colonial mindset. Though the Bureau received applications for 1,121 *kaiñgins* in the fiscal year 1907 and almost 3,000 in the fiscal year 1908, between July 1905 and June 1907 the bureau had certified 1,278 plots of forest, cogon, or other lands as better for agriculture than for forest lands and therefore open for homestead or purchase. In addition, by June 1907 the bureau had 1,427 applications for homestead claims to be certified as better for agricultural purposes pending investigation by forestry officers.<sup>112</sup> These large numbers of homestead applications appeared to confirm Ahern’s belief that *kaiñgineros* merely wanted access to their own lands. Yet, despite the bureau’s efforts in greater enforcement and expansion of both homesteads and propaganda, two developments perpetuated the narrative that the Forestry Bureau strove for forest protection while rural *kaiñgineros* threatened the public

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*Aims, Execution, and Impact of American Colonial Policy, 1900-1913* (Westport, CT: Greenwood Press, 1980), 150-155.

<sup>109</sup> Ventura, 135.

<sup>110</sup> *Report* (1907), 16.

<sup>111</sup> *Ibid.*

<sup>112</sup> *Ibid.*, 29.

resources: greater numbers of rural people applied for homesteads and the bureau continued to receive reports of illegal *kaiñgins*.

The Homestead Law did not solve the bureau's *kaiñgin* problem because both the theory underlying it and the practice of homesteading did not fit in the Philippines. The law was, according to one scholar, "very much an American concept," designed for the American western plains and the American people.<sup>113</sup> First, the Homestead law<sup>114</sup> allowed farmers to have as much as 16 hectares (ha) of land. But few farmers, even those who planned to farm the land year after year or to grow commercially viable crops, could till so much converted land. Rather, the bureau was beset by applicants for small plots of land making the job of assessing large numbers of small portions of land too much for the understaffed bureau. The 1906 *Report* shows that *kaiñgin*-makers requested licenses for plots of land as small as .64 ha and the average was only 4.43 ha.<sup>115</sup> But most often "homesteaders" merely used the legal land claims for making small *kaiñgins*, after which time they abandoned the land.<sup>116</sup> Second, Ahern complained that the political economy of Philippine village life did not lend itself to individual family farms. Rather, as most Americans did, he blamed powerful *caciques* for controlling farmers' labor through debt. The powerful symbol of the *caciques* sometimes were actual absentee landlords, but they were also imagined figures who justified American intervention.<sup>117</sup> Ahern argued that they claimed much of the produce from the "homesteads" so that in no way did the

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<sup>113</sup> Potter, "Forests versus Agriculture," 56.

<sup>114</sup> Philippine Islands, *Homestead Circular* (Manila: BOP, 1913). The Homestead Law was originally contained within the Public Land Act (No. 926) of 1902.

<sup>115</sup> *Report* (1906), 24.

<sup>116</sup> *Report* (1910), 8

<sup>117</sup> Ileto, *Knowing America's Colony*, 41-66.

homesteads make the farmers independent yeomen.<sup>118</sup> In the colonial context, Ahern had forgotten that most U.S. homesteaders in the Great Plains were themselves under massive debts that forced them to plant cash crops. They also were not the independent landholder of American myth. Third, the environmental conditions also did not make homesteading a viable alternative to shifting agriculture. As Barrington Moore noted, the rinderpest epidemic had depleted the islands of most of their carabaos, and without these beasts of burden farmers could not conduct the strenuous task of removing the cogon grasses that grew up in forest clearings.<sup>119</sup> Though many Filipinos did apply for homesteads, the law did not end *kaiñgins*, rather *kaiñgins* persisted both as a local economic necessity and as the antagonist in the bureau's narrative of public threat.

In less than a decade the bureau's attention to *kaiñgins* had gone from primarily understanding them as "clearings made by fire" to believing that they represented "the greatest problem that confronts the Bureau of Forestry."<sup>120</sup> More specifically, in 1900 Ahern had believed that forests covered more than half of the islands' area and that deforestation had "followed the line of civilization." But in 1910 he reported "57 percent of the land area of the Philippines is in grass and second-growth forests," and "that this condition is mainly due to the shifting system of farming known as the *kaiñgin* system there can be no doubt."<sup>121</sup> In 1915, after W.F. Sherfesees had taken over as the bureau chief, he could both claim that the bureau had gained an upper hand on *kaiñgin*-making by citing advances in education, surveillance, and enforcement and that *kaiñgins*

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<sup>118</sup> *Report* (1911), 22.

<sup>119</sup> Moore, "Forest Problems," 78-79.

<sup>120</sup> *Report* (1910), 8.

<sup>121</sup> *Ibid.*

remained “decidedly the greatest menace to the public forests of the Philippines and the lumbering interests as well as other industries which are dependent thereon.”<sup>122</sup> However, the statistics show that in the fiscal year 1915 forest officers and local authorities reported almost 2,000 *kaiñgins*, but only acted upon 541 or slightly more than one-quarter of the total. *Kaiñgin*-making had neither been corralled nor ignored. Instead, the proliferation of legal forest uses and demarcated use areas had permitted the Bureau of Forestry and the PLA to establish a narrative that rural *kaiñgin*-makers broke the law and represented a public menace. From the early twentieth century, the bureau and others promoted this narrative as a Philippine proto-national belief. Rural *kaiñgins* had to be controlled or the public would inevitably suffer, they argued.

And yet, the bureau was also forced to recognize *kaiñgineros* as rationale actors who responded to national economic conditions, local markets, and the bureau’s more strategic accommodations. In 1914, bureau botanists found that the valuable first group timber species ipil-ipil (*Leucaena glauca*) could be used to reforest *kaiñgins* because of the trees’ rapid growth and invasive tendencies.<sup>123</sup> *Kaiñgineros*, instead of being punished by the Bureau of Forestry could, in select provinces, opt to assist the bureau in replanting deforested areas with commercial tree species. Moreover, the bureau found that yearly increases and decreases in illegal *kaiñgin*-making reflected fluctuations in

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<sup>122</sup> Report (1915), 25.

<sup>123</sup> Ipil-ipil is known by other names reflecting its ability to grow in many places globally. In the Philippines, it is also commonly known as Santa Elena. In other places it may simply be known as Mimosa from its family designation of *Mimosaceae*. Within that family, it is also similar to, and sometimes interchanged with, *Leucaena leucocephala*. But, it should not be confused with Ipil (*Intsia bijuga*), which is a large tree that Americans coveted for merchantable wood. See W. H. Brown and D.M. Matthews, “Philippine Dipterocarp Forests,” *Philippine Journal of Science* Vol. 9, Sec. A (1914), 413-561; D.M. Matthews, *Ipil-Ipil – A Firewood and Reforestation Crop* (Manila: BOP, 1914); N.A., “Vegetation of the Philippine Islands,” *Journal of Ecology* Vol. 3, No. 4 (December, 1915), 246.

local and regional markets. Though Americans had been quick to criticize *kaiñgins* as “primitive” because they grew only a few subsistence crops, in fact *kaiñgin*-makers in some provinces produced crops that were broadly marketable. In Negros, Albay, Samar, and Ambos Camarines during 1918, illegal *kaiñgin*-making increased fifteen percent because transient farmers reacted to “abnormal” high prices for rice and corn as well as abaca – “the chief crop of the provinces.”<sup>124</sup> In 1919, the bureau reported that its own propaganda to increase crop production had contributed to an increase in *kaiñgin*-making. These increases in *kaiñgins* brought even greater surveillance and patrols in the forests because *kaiñgin* farmers represented an increased danger. In their response to market prices, they appeared as rational actors who were outside of the bureau’s control.<sup>125</sup> But although Americans continued to try and stop illegal *kaiñgin*-farming, by the early 1920s, the Bureau of Forestry recognized *kaiñgins* as part of the cultural landscape and expressed understanding about the multiplicity of reasons for *kaiñgin*-making.

However, what the bureau failed to realize was how its policies of land classification, pseudo-enclosures, and, most of all, the remaking of allowable *kaiñgins* and the prosecution of illegal *kaiñgins* exacerbated rural hardships. Through the prosecution of *kaiñgineros* and the empowerment of village and provincial officials over *kaiñgineros*, the bureau took away a socio-economic outlet for rural people who required the land and produce that *kaiñgins* offered. As in Nancy Peluso’s work on peasant resistance and colonial forestry in Java, rural Filipino/as gained little from colonial foresters’ protection, new land classifications, and modernization campaigns. Though the

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<sup>124</sup> *Report* (1918), 13-14. Crop production archipelago wide was up because of World War I.

<sup>125</sup> *Report* (1919), 11-12.

bureau began to see *kaiñgins* differently after the 1920s, this new vision was only a small victory for rural people. As the bureau filled its roster with trained Filipino forestry staff, its numbers swelled and its ability to police the forests increased. Some local people adjusted to the bureau's regulations, took homesteads, and made their way in changing economic circumstances. But, many rural Filipino/as struggled to overcome impoverishment without *kaiñgins* or continued to push further into the forests creating tense relations with neighbors and greater challenges for the bureau.

### **Ipil-Ipil: Finding Hope in a Good Colonizer**

As the Americans tried to formulate policies and create spaces for legitimate forest use, it struggled to understand how to reproduce forests on logged lands and *kaiñgins*. The bureau may have blamed *kaiñgineros* for forest loss, but regardless of the causes the forestry officials' duty was to protect the forest for the future of the Philippines. Environmental stability and the reproduction of commodities depended upon reforestation. However, the American forestry experts did not have enough knowledge of Philippine forest ecology, and the lands' natural tendency was to grow grasslands once forest had been cleared away. As market-oriented logging, clearings for cash crops, and *kaiñgins* all expanded, the bureau attempted reforestation programs that would force the forests to conform to the bureau's agenda. But, before the bureau could stimulate the forests' reproduction, it first had to deal with the natural tendencies that worked against the bureau's ability to implement sustained yield forestry.

Scientific forestry required that forestry officials understand and learn to understand how ecologies functioned, which only came from understanding how individual species grew, aged, breathed, reproduced, withstood fire, developed roots, and much else. Reforestation also meant protecting reforestation areas from *kaingineros*. Indeed, it was the ways in which forests reproduced that made *kaingins* so problematic. When forest cover was removed, the Philippine lands reproduced cogon grasses, not new forests. If the forests had reproduced themselves after *kaingineros* abandoned the land, then rural shifting agriculture would have been far less significant. By 1910, it was just becoming clear that Americans did not know much about the forests' reproductive qualities, but nonetheless were dedicated to creating spaces that conformed to state mandates and a capitalist economy.

In order to generate new forests on cut-over lands, the bureau looked to Philippine flora for answers. As Americans attempted to determine the correct percentage of the Philippines that should remain as forests, they began to determine which logged-over or otherwise cleared areas must be reforested. The bureau dispatched foresters to some industrial logging sites to oversee methods and create plans for reforestation. In 1910, Hugh Curran, a who joined the bureau as a forester in 1905, was assigned to northern Negros to work with both the Insular Lumber Company and the Negros-Philippine Lumber Company.<sup>126</sup> While there, Curran noted that the two industrial lumber companies and local firewood collectors had removed large portions of the forest.

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<sup>126</sup> *Official Gazette* Vol. 4, No. 1 (January 3, 1906), 21 in *Elihu Root Collection of United States Documents relating to the Philippine Islands*, Vol. 159 Google Ebook. Hugh M. Curran worked in the Philippines from 1905 until 1912. He became one of the early and most significant American Tropical Foresters after he took positions in Argentina, Brazil, Colombia, and Venezuela. He helped to start the Venezuelan School of Forestry after 1929.



Because the bureau had designated the region as “permanent forest,” Curran spent much of his time investigating “the production of a new crop of timber on logged-over areas.”<sup>127</sup> It was during his study of the Negros logging tracts that he discovered the bureau’s hope for the future protection of the Philippine forests. According to the forester D.M. Matthews, Curran suggested that the bureau investigate ipil-ipil (*Leucaena glauca*) as a reforestation crop.<sup>128</sup>

In 1914, Matthews took up Curran’s suggestion and performed a focused study on ipil-ipil with attention to its potential as a firewood and reforestation tree. Matthews discovered what Curran had suspected: ipil-ipil “gives promise of being an excellent species” for reforestation.<sup>129</sup> First, unlike most Philippine trees, ipil-ipil grew very quickly. For use as firewood, it could reach a usable size, about 6 meters high and 5 centimeters in diameter, in two to three years. Moreover, Matthews observed, ipil-ipil “never attains large size.” It was not a tree valued for producing merchantable wood. Unlike most trees, ipil-ipil’s small size justified its reproduction. By shading the ground too, ipil-ipil provided the proper conditions for merchantable species to grow. The valuable Dipterocarps needed shade as seedlings. As a firewood source, ipil-ipil solved another of the bureau’s problems – it provided fuel wood for villages, towns, and rural people whose firewood supplies had diminished, forcing them to go further into the forests for fuel. As many of the U.S. foresters noted by 1910, local lowland peoples

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<sup>127</sup> Report (1911), 13.

<sup>128</sup> Ipil-ipil is known by other names reflecting its ability to grow in many places globally. In the Philippines, it is also commonly known as Santa Elena. In other places it may simply be known as Mimosa from its family designation of *Mimosaceae*. Within that family, it is also similar to, and sometimes interchanged with, *Leucaena leucocephala*. But, it should not be confused with Ipil (*Intsia bijuga*), which is a large tree that Americans coveted for merchantable wood.

<sup>129</sup> D.M. Matthews, *Ipil-Ipil – A Firewood and Reforestation Crop* (Manila: BOP, 1914).

primarily used mangrove forests for fuel supplies, and ipil-ipil could supplement their fuel needs.

Ipil-ipil's second great contribution to reforestation was that it was a good colonizer. Matthews noted that it was a non-native species "found scattered widely throughout the Islands in second-growth and grass areas."<sup>130</sup> Indeed, ipil-ipil is native to southern Mexico and Central America, but by the early twentieth century had spread "throughout the Tropics and the world." According to Matthews, ipil-ipil had been a successful invader because "it is not at all exacting as to climate."<sup>131</sup> It did not surprise the Americans that ipil-ipil grew well in wet areas, but they found that it proliferated in both dry and wet areas near the edges of forests or where the forests had been removed by logging and shifting agriculture. The tree's adaptability made it a perfect choice as a reforestation crop in many regions in the Philippines.

It was in these cleared or disturbed areas where ipil-ipil's third and greatest contribution came into focus. Matthews observed that ipil-ipil succeeded where so many Philippine tree species failed – it successfully competed with cogon grasses that grew in forest clearings.<sup>132</sup> Whereas other commercially important tree species that the bureau hoped to reproduce did not thrive in dry cut-over areas where assertive grasses grew quickly, ipil-ipil, Matthews guessed, benefitted from a fast-growing root system. In its youth, ipil-ipil produced a deep taproot, so that "a seedling only 1 centimeter at the surface of the ground and with only a height of 1½ meters will, in good soil, develop a

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<sup>130</sup> Matthews, 5.

<sup>131</sup> Ibid., 6.

<sup>132</sup> See Chapter 4 for more on cogon grasses.

taproot 1 meter in length.”<sup>133</sup> The deep taproot permitted access to moisture that other species’ shallow root systems could not reach. This enabled ipil-ipil to grow among the cogon grasses, where other trees could not. The cogon grasses’ shallow roots, especially those of *Imperata exaltata*, the most widespread and invasive of all, outcompeted most other trees for moisture preventing new growth. *Imperata exaltata* became a successful colonizer because it “develops dense masses of roots and underground stems which take up complete possession of the upper layers of the soil and during the dry season and deprive the soil of nearly all available moisture.”<sup>134</sup> Once established, ipil-ipil successfully shaded the ground and created less favorable conditions for cogon grasses. With the help of workers who could tend the ipil-ipil plantations, the new tree species would colonize the troublesome grasslands and recapture deforested areas for the state.

Furthermore, ipil-ipil displayed many other colonialist tendencies that native, commercially important Philippine species did not. Ipil-ipil reseeded itself well by producing many large, heavy legume-like seeds. Its seeds being heavy, however, did not allow it to move up hillsides and into higher elevations unless helped by humans. But the broadcasting method of seeding, in which humans scatter the seeds, showed a success rate of 38%, about the same as natural reproduction. Broadcasting was the cheapest way for the bureau to conduct ipil-ipil reforestation programs. Even more encouraging was that ipil-ipil could eventually out-compete cogon grasses because the tree did not only reproduce through its seeds but also through sprouts that shot up from the root systems of existing trees. Matthews noted that these sprout-trees ultimately produced fewer seeds,

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<sup>133</sup> Matthews, 8.

<sup>134</sup> Ibid., 11.

but they nonetheless helped to shade the soil, prevent water-loss, and overtake the dry, grass-dominated cogons. By almost any measure, ipil-ipil offered solutions to some of the bureau's most pressing problems and provided encouragement that reforestation was possible in the increasingly numerous deforested lands.

Ipil-ipil's weakness was its susceptibility to fire. Fire control was not an issue in the deep woods with closed canopies and moist soils, even during the dry seasons. But on lands exposed to the sun and dry seasons, fire commonly swept through the cogon lands. Fires started with lightning strikes and by cogon-users who prepared the land for agriculture, better pasture, or hunting grounds. Regardless of fire's origins, it killed ipil-ipil seedlings and new sprouts, though the cogon grasses' root systems generally survived light fires. Bureau officials had already begun campaigns to stop rural fires, but the new ipil-ipil reforestation campaigns meant that the bureau became even more dedicated to hiring forest guards and fire wardens. After Matthews's bulletin on ipil-ipil, the bureau made the tree an ally in the combat against deforestation.

The bureau's attempts to introduce capitalist exploitation depended on the legitimacy that reproduction schemes offered. Ipil-ipil satisfied the need for a reforestation crop so that logging could move forward. Ipil-ipil supported the bureau's optimism that exploitation and protection could work in concert. And once the bureau had found its reforestation crop, little remained to challenge the notion that the commodification of Philippine forests was both good and workable.

Ipil-ipil had provided an answer to a pressing question, but the more important questions had not been asked: how would the Philippines -- both its forests and its

peoples -- respond to market-oriented logging. Ipil-ipil only provided the bureau with what it had hoped to find. The American officials' faith in their mission helped generate expected results. Because the bureau asked for a good reforestation crop in order to cover existing cogon lands, provide a usable product, and help to reforest newly logged areas, ipil-ipil rose to prominence. Other questions would have produced different results. Asking whether or not the Philippine forests could support market-oriented logging would have meant research and investigation before exploitation. Such an ordering of operations was not possible in the American colonial Philippines.

Furthermore, many other seemingly crucial questions did not emerge for years after ipil-ipil reforestation programs were under way. For example, the fact that ipil-ipil made a good firewood source for local villagers supported the cost of buying seeds, hiring planters and fire wardens to protect the seedlings. But the bureau had not considered how well ipil-ipil might work where new industrial logging penetrated deep into the interior, where no shortage of fuel wood existed within the less populous regions of the forests. Would ipil-ipil reforestation be cost effective on an increasingly large scale? Would the program be useful across diverse landscapes? If ipil-ipil did prove useful as a nurse species for Dipterocarps, what would be the next step in the process? How would forests begin to regenerate species that the bureau valued for merchantable wood? These questions only arose during later years in response to increasing deforestation and the poor results of decades of reforestation attempts.

In the years after Matthews's bulletin provided optimism about the future of utilization and reforestation, U.S. scientists continued to worry about the depth of their ignorance. They did not know Philippine ecology or how the islands would respond to

industrial logging. Nevertheless, assuming that large-scale capital investments must be made, even with limited knowledge of forest reproduction, the bureau had faith in its reproduction schemes. As early as Barrington Moore's 1910 essay "Forest Problems in the Philippines," U.S. forestry experts concluded that their knowledge was insufficient for sound forestry techniques. In his summary, Moore noted this problem succinctly: "The question of opening up the forests in such a way as to injure them as little as possible. This must be done immediately in spite of the present lack of silvicultural knowledge."<sup>135</sup> In 1914, Matthews and the botanist William H. Brown, published an article in the *Philippine Journal of Science* that revealed the meagerness of the bureau's knowledge. The article received wide attention in scientific literature, and according to the *Journal of Ecology*, "Although the dipterocarp forests are the most extensive and important forests in the Indo-Malayan region, [Brown and Matthews's] paper appears to be the first account of their ecology."<sup>136</sup> The Society of American Foresters added, "Without which knowledge it is well-nigh impossible to handle them according to rationale silvicultural practice."<sup>137</sup> Although American foresters acknowledged their lack of information on Philippine ecology and silviculture, they dismissed the dearth as a consequence of previous Spanish "conservatism."<sup>138</sup> And yet the lack of Spanish knowledge had not prevented the bureau from developing timber-testing machines, creating expensive exposition materials, collecting long lists of potential commodities,

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<sup>135</sup> Moore, 81.

<sup>136</sup> Brown and Matthews, "Philippine Dipterocarp Forests;" N.A., "Vegetation of the Philippine Islands," *Journal of Ecology* Vol. 3, No. 4 (December, 1915), 246.

<sup>137</sup> H.N. Whitford, "Philippine Dipterocarp Forests," in *Proceedings of the Society of American Foresters* Vol. 11, No. 4, (October, 1916), 463.

<sup>138</sup> George P. Ahern, "The Utilization of a Tropical Forest," in *Proceedings of the Society of American Foresters* Vol. 11, No. 1 (January, 1916), 17.

and fostering partnerships with loggers and lumbermen in the name of utilization. With faith that ipil-ipil had become a panacea for forestry ills, the bureau continued to depend upon it for decades.

Although ipil-ipil was the first tree to serve the bureau as a reforestation crop and it inspired hope about its ability to protect the forests, reforestation also became a regular burden for the bureau. Whereas the bureau's attempts to expand capitalist uses of the forests had many allies, few outside of the bureau wanted to take fiscal and operational responsibility for reforestation. Reforestation campaigns required increases in funds, new experimental programs, and labor. Although U.S. foresters recognized that forest depletion was underway by 1910 and that the bureau knew little about Philippine ecology or silviculture, the vast forests permitted the Americans to believe that they had time to learn. But by the 1920s, as the forests retreated, the bureau downplayed its own ignorance in favor of deflecting responsibility for its difficulties with reforestation onto politicians and the public at large.

Beginning in 1911, the bureau's attitude toward the central Philippine government and its policymakers turned sour. Ahern reported that the bureau was short on funds and could not carry out its many missions. He discontinued the bureau's field work and claimed that the lack of funds "demoralized" and "discouraged" his officials as they put their projects and programs on hold. Similar comments are found in every official *Report* thereafter, regardless of who acted as Chief of the Bureau. When William Sherfese took over as Chief in 1914, after Ahern retired and returned to the United States, he bemoaned the lack of funds for research which, he wrote, "lies at the very base of conservative

forest administration.”<sup>139</sup> Sherfese described the bureau’s lack of ecological knowledge as “unquestionably the most important problem confronting the Bureau...to insure a sufficient reproduction of desirable species on areas logged over by modern steam methods.”<sup>140</sup> But just as Ahern had before and Arthur Fischer would subsequently, Sherfese used the lack of appropriations to deflect blame for forest loss away from the bureau’s lack of knowledge. In 1923, Fischer, the third and last American chief of the bureau, reported, “The progress of reforestation is far behind when compared with the progress of the other activities of the bureau as a result of the lack of funds.”<sup>141</sup> Moreover, what Fischer revealed was that the bureau prioritized many of its tasks ahead of reforestation and expected the general government to appropriate special funds for reforestation. Reforestation programs were all paid for out of the bureau’s general allotment fund, and most of the money went to higher priorities of utilization, mapping, surveys, and timber-testing.<sup>142</sup> More funds would have allowed the bureau to conduct more investigations, but even so, more research did not guarantee that reforestation could keep pace with utilization. In part, the bureau’s dearth of silvicultural and ecological knowledge caused many of the experimental tree planting campaigns to fail.<sup>143</sup>

In addition to politicians and a lack of funds, the bureau’s leaders cited public ignorance and apathy in the failures of reforestation campaigns. In 1930, Felix Franco, a forester and member of the Philippine School of Forestry’s 1912 class, wrote an article

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<sup>139</sup> *Report*, (1915), 27.

<sup>140</sup> *Ibid.*, 28-29.

<sup>141</sup> *Report*, (1923), 43.

<sup>142</sup> *Report*, (1924), 32-33.

<sup>143</sup> *Ibid.*, 34.



for a special forestry issue of the *Manila Daily Bulletin* pointing out the necessity of reforesting 1,000,000 hectares that had been logged and subsequently grew only cogon grasses. For Franco and other forestry officials, public attention was needed on to the problem of forest loss, because, as Franco wrote, “They do not realize that there are places where the forests had disappeared to the decided detriment of the welfare of the Islands.”<sup>144</sup> Other Filipino forestry officials took a similar approach. Writing in the same edition, Placido Dacanay, an official in the Division of Forest Management, told readers of the *Manila Daily Bulletin* that deforestation resulted in “floods, run-off, and erosion” in many places in the islands, and that the general public should move to action. Noting that the government had appropriated reforestation funds in 1927, Dacanay knew that funds were not enough. Even when the bureau carried out new forest plantings, Dacanay reminded readers, “Young trees and seedling have many natural enemies,” and “must be guarded” against these through “human agency and vigilance.” But because of the expense involved in protecting seedlings until they were strong enough to survive on their own, the widespread reforestation sites, and the benefits that the nation received from healthy forests, it was “for people living in towns and barrios to safeguard and protect the forest.”<sup>145</sup> The public, the bureau insisted, should be held responsible for reforestation. “Forests have been cut and are being cut with little thought of the future,” Franco warned. He and others held the public responsible for actively “insuring” the future of Philippine forests through voluntary service to the bureau.

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<sup>144</sup> Felix Franco, “Forests Must be Insured to Make Future of the Country Safe,” *Manila Daily Bulletin* (October 31, 1930), 1.

<sup>145</sup> Placido Dacanay, “Facts Regarding Forestry in the Philippines,” *Manila Daily Bulletin* (October 31, 1930), 1.

Filipino forestry staff recognized that they had made missteps in managing the forests for posterity. Acknowledging their “wont to hide our failures,” some Filipino foresters called attention to the ongoing problems of reforestation.<sup>146</sup> In addition to the numerous critics who voiced concern about the pace of utilization, the bureau’s director, Florencio Tamesis, organized a conference in 1950 to further explore reforestation efforts. The reports of three reforestation studies that focused specifically on Benguet pine, molave, and narra were published in the *Forestry Golden Book* and demonstrate that even after fifty years of investigative work, the bureau still struggled to understand under which conditions its most valuable species would reproduce.<sup>147</sup> That lack of information stood in stark contrast to facts that the bureau officials knew too well. By 1950, the bureau estimated that almost 5.3 million hectares of land needed to be planted to forests. And in 1953, one report stated that about 20% of the bureau’s revenue from fees and around 35% of its appropriation went to reforestation programs even as the forests retreated.<sup>148</sup> All of their efforts to claim, protect, and hold state space for the future of the Philippine forests seemingly had been in vain.

## Conclusion

U.S. forest authorities in the Philippines had attempted to create spaces in the Philippines where they could manage the forests, spread capitalist means of production, and reform uses of the forests. The U.S. officials sought a balance between forest use and

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<sup>146</sup> Tamesis quoted in *Forestry Golden Book Supplement*, 12.

<sup>147</sup> *Forestry Golden Book Supplement*, 60-62.

<sup>148</sup> Winslow L. Gooch, *Forest Industries of the Philippines* (Manila: BOP, 1953), 134.

equitable social policy. However, two obstacles were unavoidable: the power of the Bureau of Forestry was limited by factors beyond its own making and American lessons of land management and social policy did not conform to the Philippines. Even though Philippine and U.S. forest policies developed in tandem between 1903 and 1906, the social and environmental differences produced some very different results. Large private landholders in the American West dominated forest use, but most officials thought the Philippines' vast forests would supply enough wood for large capitalists and local peoples. But, the expansion of capitalist means of production created greater changes across the landscape than the bureau could counter through management practices.

Licenses acted as the first contract between forest users and the government; they signaled an agreement to cooperatively protect the forests from overuse and waste. For the American forestry officials in the Philippines, licenses represented the most basic step in regulation – the making of state space and legitimate forest users. However, licenses tended to benefit those who were most likely to conform, such as large, commercial timber and lumber operators, and the contract offered little to rural forest users who did not imagine themselves within a larger polity. Rather, rural people existed within localized communities where *kaiñgins* helped to alleviate debt, provide resources for growing families, and secure livelihoods for poor, landless farmers. If licenses acted as contracts, then *kaiñgineros* perceived little that was beneficial or even recognizable in such a relationship to state authorities. *Kaiñgins* composed two sides of a coin – one that allowed the Bureau to reevaluate how licenses could co-opt *kaiñgineros* labor for reforestation and economic development, and the other side that served the bureau's narrative of threat with the foresters as heroes and the *kaiñgineros* as villains.

The bureau believed that additional policy shifts would accomplish Ahern's desire to serve all interests from the big timber operators to the small rural farmers. The bureau implemented the thirteen cubic meter rule, the free use provision, and communal forests to provide enough resources for rural people and, hopefully, ameliorate rural unrest. But, the bureau also had to address timber capitalists' concerns by establishing pseudo-enclosure laws in the public domain. Exclusive license agreements set logging tracts apart from the rest of the public forests and made rural people into trespassers who entered or cut and collected forest resources in such areas. The state-capital cooperation that emerged aided those who represented the American civilizing mission by introducing and fostering capitalism.

The Philippine timber and lumber capitalist organized under the PLA at just the right time to see amenable regulations passed. The PLA only existed for a short time, but nevertheless exerted a great deal of power. This may be because the Bureau of Forestry fostered it. The PLA came about in 1904 but was disbanded because of infighting in 1910. Only after much footwork and petitioning by Ahern did the Philippine Lumber Manufacturer's Association emerge in 1911; it fell apart by 1917. Several times in his official *Reports* Ahern bemoaned the lack of an association such as the PLA and it only played a prominent role in his accounting of policymaking during 1904-1908. Perhaps Ahern wanted an association of the big capitalists to do more of the work of promotion and advertisement that his bureau had been burdened with. But, the Philippine timber and lumber dealers often existed independently. After all, the regulations were so amenable to their success that there was often little need for such a cooperative association.

The bureau's efforts began to create regulated peoples and spaces. Its policies also ordered the forests into exclusive areas, communal forests, forest reserves, private woodlands, and reforestation zones. And, the people who operated in such spaces became legal and illegal forest users – protagonists and antagonists in the story of public-making – those who obeyed the supported the bureau's mission to protect the forests and those who continued to oppose the bureau. The environment too repeatedly challenged the bureau by reproducing plants in unexpected and inconvenient ways. As the bureau tried to regulate space through the introduction of logging and scientific management, the forests seemed to continually evade the bureau's grasp. Even with the help of *ipil-ipil*, the making of state space in the colony was expensive and onerous.

Some scholars have claimed that rural people necessarily create problems for modernist forestry programs because their methods and motivations must be antithetical to bureaucrats' schemes. However, *kaiñgineros* became public enemies because of how the bureau defined forest protection and problems; *kaiñgineros* appeared to commit the ultimate forestry sin: waste of material that could be transformed into capital. Although timber capitalists' operations also wasted forest resources, some estimates claimed that large-scale operators wasted as much as 80% of what they took from the public forests, the bureau allowed waste because capitalist development represented part of the American civilizing mission. The Americans' focus on a timber-based forest economy left those who commodified trees empowered to judge those who burned trees to enrich the soil. The story of how *kaiñgineros* came to be regarded as the largest threat to the Philippine forests is as full of contingent moments as any story. Ahern and the bureau did not imagine their duty was to pursue and prosecute rural farmers. Nor did rural farmers

believe that they had a duty to a larger community of all Filipino/as. Rather, both groups attempted to use the forests in the ways that they believed best. And, although the state's powers of coercion and punishment outstrip rural peoples' powers to resist in most cases, *kaiñgineros* resisted complete state control and in so doing helped structure both the Philippine state and civil society.

## Chapter 5

### The Spirit of Service: Education, Optimism, and Esprit de Corps in the Philippine Bureau of Forestry

“In the Philippines, Forestry is synonymous to a service. A forester serves his people whether in he be in Huklandia or in a Free Philippines, a guardian of our commercial forest and a walking encyclopedia for the people.”

- Luis Aguilar, College of Forestry, Class of 1919<sup>1</sup>

“Forestry as practiced in the Philippines is practically devoted to the production of timber and other products[...] In other words, the Philippines is concerned too much in the harvesting of her forest crops, but she is practically neglecting the proper care, management, and protection of her forests.”

- Amado Pura, College of Forestry, Class of 1925<sup>2</sup>

## Introduction

In 1950, as the Philippine and U.S. governments worked to rebuild the Philippine economy after the destruction of World War Two, the Philippine Bureau of Forestry published *Forestry Golden Book* to celebrate its fifty-year history.<sup>3</sup> The *Golden Book* also highlighted the forty-year anniversary of the College of Forestry, which opened in 1910 and graduated its first class of forest rangers in 1912. With the celebration of Philippine forestry as its object, the *Golden Book* had an unsurprising, self-congratulatory tone. The editors, led by Nicholas Lansigan a forester and silviculturalist, included remembrances, benedictions, and stories that praised the history of Philippine forestry, American tutelage, and both American and Filipino “pioneer employees.” And yet, amid the

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<sup>1</sup> Bureau of Forestry, *Forestry Golden Book* (Manila, 1950), 78.

<sup>2</sup> Ibid., 109.

<sup>3</sup> See Bureau of Forestry, *Forestry Golden Book* (Manila, 1950) and *Forestry Golden Book: Supplement* (Manila: 1950).

nostalgia and aggrandizement, the editors included some forestry officials' critiques and criticisms of the bureau's policies and past actions. While most of the officials and alumni praised the bureau, a few charged the bureau with paying too much attention to "utilization" and ignoring the complexity and delicate nature of Philippine forest ecologies. As American forestry advocates had in the nineteenth century, these critics warned of a coming timber famine and ecological devastation. They believed that their nation stood on the verge of massive forest loss, and they were largely correct.

During the latter half of the twentieth century, the Philippines lost vast amounts of forest cover. In 1900, American scientists estimated that during the late Spanish colonial period forests covered about 68% of the Philippine Islands. That percentage had changed little by the time that U.S. foresters arrived. According to David Kummer's work on Philippine deforestation, by 1950 the percentage of forest cover had declined to less than fifty. By the end of the 1980s, the forest cover stood at around 22% of the islands' total land area.<sup>4</sup> Indeed the forestry critics were correct in 1950; the Philippines was on the verge of an environmental crisis. In addition, the fears expressed in 1950 were not new or revelatory; as early as 1914, the bureau's scientists had warned that the potential for deforestation existed because the bureau knew too little about reproduction rates of Philippine trees.<sup>5</sup> By the bureau's own admission, it spent too few funds and dedicated too little attention to forest ecology research. It appeared that the bureau had spurred economic development, but had not succeeded in protecting the forest resources for the

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<sup>4</sup> David M. Kummer, *Deforestation in the Postwar Philippines* (Chicago: The University of Chicago Press, 1991), 45-46, 56.

<sup>5</sup> W. H. Brown and D.M. Matthews, "Philippine Dipterocarp Forests," *Philippine Journal of Science* Vol. 9, Sec. A (1914), 413-561.



future. If the bureau could not celebrate a history of sustained yield forestry, then what did the *Golden Book* celebrate in 1950?

The bureau officials' comments and reflections in the *Golden Book* show that the bureau did not celebrate its accomplishments, but its persistence and internal cohesion in spite of its failures. The *Forestry Golden Book* applauded the past employees for maintaining a high spirit of service and giving "their all – even their very lives – that Philippine forestry may be what it is today."<sup>6</sup> In part, the 1950 *Golden Book* can be seen as a joint American and Filipino/a effort to commemorate the tragic effects of World War Two, and to celebrate the birth of the Philippine nation, which gained independence in 1946. And yet, the presence of dozens of comments that recognized a looming forest threat indicates that officials grappled with the future as much as with the past. The *Golden Book's* positive perception of Philippine forestry was not based upon the protection of the forests, which many members of the bureau recognized as a failure. Rather, it highlighted Philippine forestry as a moral endeavor and a necessary part of Philippine democracy. Forestry authorities claimed that Philippine forestry promoted economic development, educated the public about forest use, and maintained its mission amid intra-government attacks, a shrinking budget, and growing environmental threats. In addition, many bureau officials blamed deforestation not on the bureau's history of favoring utilization over research, but rather on both rural forest dwellers and politicians who evaded forest laws for their own, rather than the public's, best interests. That these enemies of the forests had thwarted the bureau's mission to protect the forests only strengthened the bureau's claim on legitimacy. The bureau did not accomplish U.S.

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<sup>6</sup> "Dedication," *Forestry Golden Book*, 2.

forestry's agenda of capital expansion and forest protection. Rather, the bureau had reproduced another important part of American forest management – the optimism and confidence that foresters trained in the U.S. academic tradition best understood how to manage the nation's forests.

U.S. scientific forestry was founded upon a moral commitment to the nation; scientific principles of economy, ecology, and governance; faith in technological abilities; and the belief that trees and forests were integral to the American character. According to historian Paul Hirt, these intellectual foundations combined to form a “conspiracy of optimism” among American forestry professionals. Such a “conspiracy” did not prevent U.S. foresters from perceiving missteps and problems with the administration of forests, but rather supported their belief that they possessed the highest ideals and the technical prowess to address any challenges.<sup>7</sup> Nancy Langston has called this element of institutional culture “the scientific optimism behind American forestry – the faith that whatever exists can be understood.”<sup>8</sup> As Hirt and Langston have both pointed out, “faith” and “optimism” were essential elements of American forestry and must be understood alongside the development of forest science and policy as well as the expansion of capitalism and commodification. Wild and chaotic forests, U.S. forestry officials believed, could be made into highly productive (and reproductive) spaces with the proper application of technical knowledge. In the Philippines, no less than in the United States, forestry officials did not question whether or not forests could be made to produce regular harvests; they assumed as much.

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<sup>7</sup> Paul W. Hirt, *A Conspiracy of Optimism: Management of the National Forests since World War Two* (Lincoln, NE: University of Nebraska Press, 1994), xx, xxxii.

<sup>8</sup> Nancy Langston, *Forest Dreams, Forest Nightmares: The Paradox of Old Growth in the Inland West* (Seattle: University of Washington Press, 1995), 297.

This chapter explores the institutional culture that Americans embedded within forestry education in the Philippines. As they did in the United States, forestry officials imbued forestry service with particular attitudes and beliefs. Essential to U.S. forestry was the establishment of *esprit de corps* – the collective identity that forestry officials maintained as public servants, similar to that of military service. In the few surviving documents that contain Filipino forestry officials’ words from this period, the men commonly cite *esprit de corps* as one of the most important legacies of American forestry education. I begin by demonstrating how Gifford Pinchot and Henry Graves fashioned the Yale School of Forestry into the model of forestry education for the United States and the Philippines. At Yale, Pinchot and Graves promoted *esprit de corps* within American forestry in two specific ways. First, Pinchot sought out recruits who exhibited what he called, “the Yale Spirit,” a selfless desire to serve the public. This belief in self-sacrifice made forestry akin to military service because recruits gave up certain comforts and ambitions in order to claim the status of defenders of the nation. Second, Pinchot and Graves promoted forestry as a specialized academic field that provided forestry officials with a unique role in society. *Esprit de corps* in forestry cohered not around soldiering, but around these two elements: self-sacrifice and technical competency. I argue that this socio-cultural element of forestry education played a fundamental role in the making of the technical faith and optimism that supported U.S. forestry officials’ complex agenda.<sup>9</sup>

Next, I investigate how Americans attempted to fashion a specific type of Filipino forestry official through recruitment, propaganda, and the establishment of the School of Forestry. Forestry, like all American institutions, contained its founders’ assumptions

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<sup>9</sup> Brian Balogh, “Scientific Forestry and the Roots of the Modern American State: Gifford Pinchot’s Path to Progressive Reform,” *Environmental History* Vol. 7, No. 2 (April, 2002), 199.

about race, class, and gender. Americans' attitudes about Filipinos were further influenced by the imbalance of power inherent in a colonial context. I examine how officials generated many of their own challenges by defining narrowly who could work for the bureau based upon their assumptions about Filipino/as' capacities for civil service and technical ability. In the final section, I examine the origins of a Filipino force of forest rangers and students at the College of Forestry. I show how American foresters' attempts to shape Filipino officials in their image generated a Filipino force that displayed middle-class status, specific ideas of masculinity, and an evolving Philippine nationalism that was unlike the revolutionary foundations of the 1890s.<sup>10</sup> This section illuminates how curriculum, esprit de corps, and propaganda campaigns focused the students' attention primarily on the utilization of forest products.

By exploring forestry education, I offer a different look at exploitation, capitalist domination, and colonialism. Instead of investigating how capitalists and colonialists, greed and power facilitated Philippine deforestation, this chapter presents another view. It shows that U.S. forestry officials paid as much attention to social engineering as they did to managing forests and identifying forest products. For the Americans, one of the most important products that they could produce was a Filipino forestry official who conformed to American standards of masculinity, civil service, and technical ability. These cultural foundations bolstered both American and Filipino foresters' faith and

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<sup>10</sup> Reynaldo C. Ileto, "Outlines of a Non-linear Emplotment of Philippine History," in Lim Teck Ghee, *Reflections on Development in Southeast Asia* (Singapore: Institute of Southeast Asian Studies, 1988); Ileto, *Pasyon and Revolution: Popular Movements in the Philippines, 1840-1910* (Manila: Ateneo de Manila University Press, 1979); Patricio N. Abinales and Donna J. Amoroso, *State and Society in the Philippines* (Lanham: MD: Rowman and Littlefield Publishers, 2005); Vicente L. Rafael, *White Love and Other Events in Filipino History* (Durham, NC: Duke University Press, 2000), 107-108.

optimism that capitalist development and environmental reform were both moral and possible.

### **“Specialized Technique” and “the Yale Spirit”**

In 1900, George Ahern in Manila and Gifford Pinchot in Washington DC made expansive claims about their new forestry services. Philippine forestry, Ahern promised, would modernize the colony’s forest product industries, protect the inchoate nation’s patrimony, demonstrate the U.S. commitment to good and “benevolent” governance, and help to educate Filipino/as in conservative resource management. In the United States, Pinchot stated that if given its chance, the forestry service would illuminate the benefits of rational management to industry capitalists, farmers, and American consumers of forest products. It would reduce waste, increase efficiency, and help to integrate national resources and “the public economy” for future national stability. For both men, the marriage of scientific forestry and new government reforms signaled forestry’s role as one of the most important government agencies for modern nations in the twentieth century.

In the beginning, of course, neither bureau chief had a trained staff for the forestry work they were anxious to initiate. The difficulty for Pinchot and Ahern was that the type of men they hoped to recruit did not yet exist in the United States or in the Philippines. They sought individuals who were both academically trained for the specific requirements of scientific forestry and morally committed to civil service. The development of forestry regimes in the United States and the Philippines was as

dependent upon the creation of a new class of individuals – expert civil servants – as it was upon the federal ownership of lands. Beginning in 1900, both Pinchot in the United States and Ahern in the Philippines began a two-pronged approach of recruitment and education in order to fill their rosters with men who were both trained in the theory and practice of forestry and prepared for a life of government service. Pinchot developed his force slowly as he worked to clear bureaucratic hurdles. Ahern, unlike his mentor, had the responsibility to manage the forests and transform them into productive spaces for capital investments or homesteads. Ahern needed a staff immediately.

Ahern's trouble was that the high ideals of progressive political reform and his own notions of good civil service required officials with specific training. For both bureau chiefs, the creation of forestry academies to train future government foresters was essential to forestry service in the United States and the Philippines. Even though forestry education was very limited in the United States in 1900, Pinchot assumed that formal education was a prerequisite for government service. Along with other bureaucratic offices in the early twentieth century, forestry was part of a larger trend in which college graduates increasingly populated government offices. As Robert Wiebe has argued, universities "had an unprecedented power to legitimize, for no new profession felt complete – or scientific – without its distinct academic curriculum."<sup>11</sup> Ahern, Pinchot's protégé, agreed. As early as 1900, Ahern suggested that the Philippines open a forestry school to train a Filipino staff.<sup>12</sup> Schooling was essential because, although loggers and botanists knew much about forest products and botanical identification, they lacked the

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<sup>11</sup> Robert H. Wiebe, *The Search for Order, 1877-1920* (New York: Hill and Wang, 1967), 121; Peter Dobkin Hall, *The Organization of American Culture, 1700-1900: Private Institutions, Elites, and the Origins of American nationality* (New York: NYU Press, 1982), 252.

<sup>12</sup> *Report* (1900), 8.

cumulative knowledge and skill for national forestry. Before the turn to cameralist governance, German forestry officials had been men with experience working in the woods such as game wardens.<sup>13</sup> But, the attention to the role of forests in state finances required experts to predict forest outputs and budgets. Forestry schools, such as the famed French academy at Nancy, which Pinchot attended, provided these early forestry experts. Similarly in the United States, Progressive-era reform ideology was not based on the creation of experts in academies *and* civil service reform, but on the marriage of the two. The formation of government experts within forestry schools was therefore a central part of Pinchot's and Ahern's search for forestry staff.

Before 1900, forestry training in the United States was limited. The only "trained" forestry experts in the United States had schooled in Europe.<sup>14</sup> Bernhard Fernow and Carl Schenck, both German-born, had attended forestry school before immigrating to the United States. Pinchot, Henry Graves, and other early U.S. foresters such as E.M. Griffith who served in the Philippines under Ahern for six months in 1902, traveled to Europe for schooling. These privileged Americans studied with the famed forest experts of the Indian Forest Service Dietrich Brandis and William Schlich; few other Americans had such opportunities. Other American forestry experts such as Franklin Hough, Nathaniel Egleston, and Charles Sargent had agricultural experience or training in botany. A new

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<sup>13</sup> S. Ravi Rajan, *Modernizing Nature: Forestry and Imperial Eco-Development 1800-1950* (New York: Oxford University Press, 2006), 35-36.

<sup>14</sup> For Forestry education in the United States see Henry S. Graves and Cedric H. Guise, *Forest Education* (New Haven, CT: Yale University Press, 1932); Richard A. Skok, "Forestry Education in the United States," in Peter McDonald and James Lassoie, eds., *The Literature of Forestry and Agroforestry* (Ithaca, NY: Cornell University Press, 1996), 168-197; James G. Lewis, "The Pinchot Family and the Battle to Establish American Forestry." *Pennsylvania History* 66:2 (Spring, 1999): 143-165; Char Miller and James G. Lewis, "A Contested Past: Forestry Education in the United States, 1898-1998." *Journal of Forestry* Vol. 97 (September) 1999: 38-43; Pinchot, *Breaking New Ground*, 10-22.

class of American foresters would be trained to address questions specifically related to forestry such as yield, watershed protection, fire management, and silviculture.

In 1898, the only training available in the United States was with Fernow at the New York State College of Forestry at Cornell or with Schenck at Vanderbilt's Biltmore Estate in western North Carolina. During the late nineteenth century, when U.S. forestry advocates spoke of "forestry education," they referred to propaganda campaigns that informed the general public of the benefits of forestry, not to special academies. But, by the late 1880s, agricultural colleges had begun to teach some aspects of forestry such as its uses in farming and tree-planting campaigns. According to Fernow, "By 1897, twenty institutions – land grant colleges – had in this way introduced the subject." It was not until 1898 that students began to study forestry as a career with Fernow in New York and Schenck in North Carolina.<sup>15</sup> However, after Pinchot rose to the rank of chief forester in 1898, he demanded a staff trained in the ways that *he* required for government service. Pinchot considered both Fernow and Schenck's approaches to be overly German; they focused on practical methods and lacked theoretical and silvicultural lessons, he believed.<sup>16</sup> What Pinchot wanted instead were "American foresters trained by Americans in American ways for the work ahead in American forests."<sup>17</sup>

In order to establish an academy that would train such foresters, the Pinchot family gave \$150,000 to Yale University for a forestry school in 1900, and the Yale School of Forestry emerged as the flagship academy for forestry training in the United

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<sup>15</sup> Fernow, *History of Forestry*, 432-433; Schenck, *Birth of Forestry in America*, 44-48; Pinchot, *Breaking New Ground*, 151-152.

<sup>16</sup> Pinchot, *Breaking New Ground*, 151-152; Lewis, "The Battle," 156.

<sup>17</sup> Pinchot, *Breaking New Ground*, 152; Miller and Lewis, "A Contested Past," 39-40.



States.<sup>18</sup> Pinchot used his influence to place Henry Graves in the position of Dean and Professor of Forestry and to recruit Yale graduates for government service.<sup>19</sup> The Pinchot family smiled on Yale because Gifford had attended Yale and credited much of his success to the contacts and friends he made while there.<sup>20</sup> Henry Graves too attended Yale as an undergraduate. He remained one of Pinchot's most important friends and closet colleagues and collaborators. Together, Pinchot and Graves elevated the Yale program and provided it with a clear direction and purpose: to train U.S. foresters in both a self-sacrificing spirit and rigorous academic studies.

The Pinchot-Graves style of forestry education contained both specific academic and moral components that generated the character of U.S. forestry. Moreover, Pinchot and Graves were devout in their belief that these two elements should generate one of the most important characteristics of national forestry – esprit de corps. Historian Samuel P. Hays argued in *Conservation and the Gospel of Efficiency* that conservationists' belief in technical abilities to cure social and environmental ills "imbued all in the conservation movement with a kindred spirit."<sup>21</sup> But, Pinchot embedded a unique "spirit" within U.S. forestry. First, Pinchot and his cronies asserted that forestry was academically unique scientific expertise. The Newtonian scientific tradition had been responsible for breaking the natural world into its component parts thus creating the natural sciences with their attendant experts – agronomists, hydrologists, etc. Forestry was different. Scientific

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<sup>18</sup> Balogh, "Scientific Forestry," 203-204.

<sup>19</sup> Pinchot, *Breaking New Ground*, 152; Char Miller, *Ground Work*, 81.

<sup>20</sup> Balogh, "Scientific Forestry," 207; Char Miller, *Gifford Pinchot and the Making of Modern Environmentalism* (Washington DC: Island Press, 2001), 69.

<sup>21</sup> Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920* (Cambridge, MA: Harvard University Press, 1959), 266.

forestry experts were required to bring multiple sciences – natural and social – into conversation, and ultimately, into agreement. Following George Perkins Marsh’s assertion that environments (especially forests) and economies (especially national ones) must be understood together, forestry expertise represented a combination of sciences that included the burgeoning field of ecology, the discreet natural sciences, and economics. A forester was not merely an engineer, agriculturalist, biologist, or economist. Rather, a forester was, according to Henry Graves, “a specialist in forest science” with a command of “a highly organized body of knowledge and a specialized technique.”<sup>22</sup> The forester’s knowledge was unique because it represented a nexus of natural functions and human inquiries. Forestry advocates argued that, for this reason forestry stood apart and unique among the natural and managerial sciences and therefore required specially trained individuals. Pinchot, Graves, Fernow and other forestry education leaders reminded their students often of their uniqueness and necessity in maintaining the nation’s well-being.

The second element that added a deep morality to forestry and fostered esprit de corps was the promotion of a self-sacrificing character. This moral component of forestry took some selling, and Pinchot advertised the profession as rich in national service and a source of personal pride. Pinchot understood that creating a force of self-sacrificing, “disinterested” officials would be difficult to accomplish among young men who sought professional stability, respectable incomes, and status.<sup>23</sup> Forestry service was new to America, and Pinchot was forced to admit to a Yale audience, “The sources of demand

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<sup>22</sup> Graves and Guise, *Forest Education*, 10.

<sup>23</sup> Brian Balogh discusses Pinchot’s own concerns with seeking out a profession that was both socially respectable and personally satisfying. See Balogh, “Scientific Forestry,” 202-203.

for trained foresters at the moment are comparatively few.” Though he concluded that such opportunities were “increasing with remarkable rapidity,” potential forestry graduates must have wondered about the future of a new, unknown, and politically divisive field of employment.

Furthermore, forestry as a profession remained largely set within federal and state government service, which Pinchot and other Progressive reformers sought to populate only with “disinterested” civil servants. As Stephen Skowronek has explained, civil service reformers took aim at the ways that party politics had shaped government offices. For many, civil service had been a way to advance through influence, favors, and spoils of electoral politics.<sup>24</sup> But by 1900, progressives and reformers were changing bureaucratic offices to include scientific principles, academic training, expertise, and the “gospel of efficiency.”<sup>25</sup> For Pinchot and Ahern, recruiting this new class of “disinterested” trained experts and thus creating a class of dedicated public servants was a primary concern. But, “disinterest” came at a cost. Pinchot conceded, “Scientific work under the Government is always underpaid,” and those “who enter the service of lumber companies or other commercial organizations will fare much better.”<sup>26</sup> Issues of class, income, and job stability were central to young, middle-class men’s minds during the late nineteenth and early twentieth centuries. The financial panic of the 1890s and the changes from rural and small-scale entrepreneurial work to urban companies and government employment challenged young men of the period to make their own way in new careers,

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<sup>24</sup> Stephen Skowronek, *Building a New American State: The Expansion of National Administrative Capacities, 1877-1920* (Cambridge: Cambridge University Press, 1982), 54, 81.

<sup>25</sup> Samuel Haber, *Efficiency and Uplift: Scientific Management in the Progressive Era, 1890-1920* (Chicago: The University of Chicago Press, 1964), 102-104.

<sup>26</sup> Gifford Pinchot, *The Profession of Forestry* (Washington DC: American Forestry Association, 1901), 6.

industries, and enterprises.<sup>27</sup> How could relatively low-paying forestry then become appealing to young men with greater employment choices in an increasingly professionalized American future?

Always an able politician, Pinchot turned weaknesses into strengths by advertising forestry as a manly and rewarding career replete with personal satisfaction. Pinchot spoke from his own experience; he had struggled to find a career path that would satisfy his personal and professional ambitions. That forestry was an “untried field” in the United States meant “a forester finds himself compelled to do original work at every turn.” Coming from an elite background, Pinchot was able to choose his own path more readily than many young men, but he nonetheless worked to find a venue for his talents and interests. Attempting to inspire others, Pinchot exhorted, “The pleasure of investigation is very real,” and he modeled enthusiasm about forest work. Furthermore, although forestry graduates were likely to be in the employ of the government, Pinchot added the consolation that “in no profession is it easier for a man to make his life count.”<sup>28</sup> Public service, he told potential forestry students, carried its own reward. He advertised the low pay, difficult outdoor work, and public criticism as markers of a virtuous career and life dedicated to national service. By generating this appeal to self-sacrifice, Pinchot could be sure that he only attracted men who were willing to give up much for national service.

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<sup>27</sup> For more on professionalization and American society see Cindy Sondik Aron, *Ladies and Gentlemen of the Civil Service: Middle Class Workers in Victorian America* (New York: Oxford University Press, 1987), 14-15; Gail Bederman, *Manliness and Civilization: A Cultural History of Gender and Race in the United States, 1880-1917* (Chicago: The University of Chicago Press, 1995), 12.

<sup>28</sup> Pinchot, *The Profession of Forestry*, 6.

In addition to the martial quality of self-sacrifice, Pinchot and Graves imagined the future forestry service as a male-gendered occupation similar to military service, but for men of middle-class status. Everything about forestry, from the studies that forestry schools demanded to the outdoor physical labor to the unification of interests indicated that men alone were suited to become forestry officers. As Pinchot and Graves recruited young men to their cause and explained forestry's requirements to the many people who were unfamiliar with the daily life of a forestry officer, they evoked a male world.

Pinchot warned that graduates might "find the field work exceedingly or even unexpectedly hard, for it combines severe mental work with severe bodily labor, under conditions which make one peculiarly trying."<sup>29</sup> But this too was meant to appeal to young men who sought both the jobs and hobbies that emphasized manliness and middle-class status at the end of the nineteenth century. What Graves called "the rough and tumble" work of a forester meant camping, fishing, hunting, and much time spent in the woods. Pinchot reminded prospective forestry students that although "the line between work and play is still sharply drawn," field officers naturally "get a certain amount of hunting and fishing," and "will do his work better for a wholesome love of the rod and the gun."<sup>30</sup>

Forestry appeared to ask much and to offer little in the ways of job security, salary, comfort, or prestige, but it offered the lifestyle championed by Pinchot and Theodore Roosevelt, a lifestyle of manliness and fraternity. As Char Miller has discussed in his biography of Pinchot, by including sports teams, pranks, fraternal traditions as well

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<sup>29</sup> Ibid., 7.

<sup>30</sup> Ibid.

as religious devotion and studies, the fraternity at Yale conveyed significant masculine and class-based messages that Pinchot reveled in, carried with him in professional forestry, and taught to students.<sup>31</sup> Arthur Fischer, a Yale forestry graduate and the third and final American Chief of the Philippine Bureau of Forestry, told his Filipino forestry school graduates in 1918, “It behooves you new men to stand upright. Be men and no doubt you will be successful.”<sup>32</sup> Being a man, in this sense, meant not only devoting one’s life to a profession, but also engaging in the self-sacrifice for one’s nation that demonstrated a commitment beyond mere self-interest.

Furthermore, the technical work and scientific methods that foresters used also carried masculine overtones. Even for men, the work was exclusive to particular masculine types. Men who worked in forestry needed to know how to use tools, harness horses and oxen, tie knots, climb trees, and interact comfortably with “rough types” such as loggers and lumbermen.<sup>33</sup> This male-only world appealed to some young men because of the social pressure they felt to establish manly reputations and prove themselves as American men. If Gail Bederman was correct that the narrowing opportunities to become self-made men during the early twentieth century fostered a crisis of masculinity, then the forestry service presented some young men with an ameliorative.<sup>34</sup> The forestry leaders fostered male cohesiveness through selected literature, sports teams, and other overtly or subtly male-coded behavior. Although women were allowed to take some courses at

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<sup>31</sup> Miller, *Gifford Pinchot*, 65.

<sup>32</sup> Arthur Fischer quoted in the *Quarterly Newsletter of the Philippine Bureau of Forestry* (May 1, 1918), 9 Forest History Society, USFS Newspaper Clipping File Box 29, Folder “Philippine Forests and Forestry.”

<sup>33</sup> Graves, *Forestry Education*, 302.

<sup>34</sup> Bederman *Manliness and Civilization*, 12-13.

Yale's summer sessions in Pennsylvania, the degree programs only included men.<sup>35</sup>

Those young white men who had both the aptitude for college and an interest in outdoor lifestyles were told they could find satisfaction in national forestry service. Regardless of the profession's shortcomings, it ostensibly held promise for the right men with interests in academic study, outdoor work, and public service.

This tough-minded, masculine, selfless disposition was what Pinchot called the "Yale spirit." At its foundation, the "Yale spirit" was "the willingness to do the work and count the cost afterward."<sup>36</sup> This spirit imbued forestry graduates with a great power: a narrative of martyrdom that encouraged them when they faced challenges both from environmental and political factors that were largely beyond their control. The belief that one dedicated one's life to the nation and the defense of the public good provided the early bureaus, both in the United States and in the Philippines, with a special status that supported the bureaus' recruitment and retention of employees as well as their faith that forestry work was more than mere civil service. Forestry employees had given up their comfort, better opportunities, and even reputations for their nation. For Pinchot, Graves, and other U.S. forestry educators, the U.S. technocrats, whether abroad or at home, would not simply be made of number-crunchers, bean-counters, or paper-pushers. They would be a close-knit, fraternal corps equipped with technical skill, a love for outdoor work, and a commitment to national service. Forestry school graduates came to believe that forestry was national service maintained by a martial self-sacrificing spirit for the public good.

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<sup>35</sup> Lewis, "The Battle," 155.

<sup>36</sup> Pinchot, *The Profession of Forestry*, 7.

But, before the Philippine Bureau of Forestry could foster esprit de corps, it first needed trained officers, who were rare specimens at the time.

During the first decade of U.S. colonization, this idealized view of government forestry was far removed from the realities in the colonial Philippines. The demands of the colonial state in the Philippines and the anti-imperialist debate in the United States left Ahern with a sense of urgency. It was his responsibility to prove that U.S. forestry belonged in the colonial Philippines. He had to recruit individuals who were not only willing to do forest work, but also had a sufficient amount of experience or training to carry out the most immediate duties such as revenue collection. To simply invite timber and lumber capitalists to the Islands to take government lands would have been a comparatively simple task. But, forestry, as a reform notion, meant that establishing an effective service prior to opening up the forests to greater exploitation took time for planning. U.S. colonial officials were wary of hiring unscrupulous civil servants who were only self-interested. An examination system for civil service both in the United States and in Manila sought to elevate those truly dedicated to public service above applicants who sought an opportunity for self-aggrandizement.<sup>37</sup> Moreover, Ahern's military training relied on different models of unit cohesion. Ahern depended on military discipline rather than the cultivation of "the Yale spirit." During the first decade of the Bureau's existence, Ahern struggled to negotiate his need for personnel, his reform agenda, as well as his management style and military background.

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<sup>37</sup> Kramer, *The Blood of Government*, 166-168.



## The Right Stuff

The bureau's initial force in Manila was small and inadequate for the tasks ahead of them. Ahern himself lacked forestry expertise, and many capable Spanish forestry authorities had left the Philippines after the outbreak of war in 1896. Some Filipino/as applying to work for the bureau had experience with the *Inspeccion de Montes* or in logging operations. But the new bureau chief doubted Filipino/as' capacity for technical work. Indeed, he conjured numerous prerequisites and qualifications for both Filipino/a and American employees. Ahern complained during his first few years as chief, "Great difficulty has been experienced in securing competent officials," even though many Filipino/as applied to work for the Bureau of Forestry.<sup>38</sup> Ahern's notions of a proper employee were based upon his Progressive and imperialist beliefs as well as the discipline and attention to chain of command inherent to his military training.

Because of Ahern's concerns about Filipino/as as well as his need for U.S. forestry workers to obey him according to military protocol, he did not foster esprit de corps, instead he strained relations with both his American and Filipino/a staff.<sup>39</sup> Moreover, the pressure that Ahern felt from the colonial administration to make the forests productive added stress to his job. The colonial officials' dominant attention to identifying commodities and showing that a forestry bureau was useful and productive

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<sup>38</sup> *Report* (1901), 2.

<sup>39</sup> See Chapter 2, 10.

hung over the bureau's early years and helped to create an atmosphere of dissatisfaction and distrust among forestry officials.<sup>40</sup>

Americans in the Insular Bureaus doubted Filipino/as' capacities for honest civil service and technical work. When the Philippine (Taft) Commission established the civil service in 1901, it worried about the supposed depravity of not only "the Spanish civil service, but also that of all Oriental governments."<sup>41</sup> The U.S. commissioners repeated a common American prejudice stating, "In no part of the world does rumor of injustice, of fraud, and of underhand methods in the administration of public office receive so much credit as in the Orient."<sup>42</sup> In addition to believing in Filipino/as' racially-constructed "tendency" for dishonesty, U.S. administrators thought their "capacities and qualifications" also rendered them unfit for civil service until they had received training from U.S. authorities. Nevertheless, part of the process of legitimizing the Americans' colonial effort was to "prefer the Filipino for office when all other qualifications are equal."<sup>43</sup> The Philippine Commission therefore instituted the "merit system" by which American administrators examined applicants, both from the United States and from the Philippines, for civil service work. The insular government believed that the merit system would establish an honest and efficient civil service and model of good government.

In order to prepare Filipinos for the merit exams, Filipinos had to undergo training and instruction from Americans or Europeans versed in scientific methods. Ahern and the

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<sup>40</sup> Henry S. Graves, "Confidential Report on the Condition of the Philippine Forest Service," Pinchot Papers, LOC, Box 640, Folder, "XII Philippines," 3-4.

<sup>41</sup> *Report of the Taft Philippine Commission* (1901), 20.

<sup>42</sup> *Ibid.*, 21.

<sup>43</sup> *Ibid.*

American colonialists maintained confidence that Filipinos would learn to be rational, expert forest managers under American tutelage. This belief rested on a particular form of paternalism that gendered Filipino men as children needing instruction from American “fathers.” In a typical paternalistic tone, Ahern claimed that Filipino forestry officials would become better civil servants “if they are constantly looked after and instructed.”<sup>44</sup> Ahern’s paternalism reflected the U.S. colonial attitude that Filipino men were children who required instruction in order to “grow” into adulthood.<sup>45</sup> In this sense, forestry training did not simply mean establishing technical ability in the Philippines, but also meant, what Paul Kramer has called “the imperialism of process.”<sup>46</sup> Such a process included withholding independence until Americans recognized that Filipino/as were sufficiently prepared for self-government. Regardless therefore of the number of Filipino/as that sought out employment in the Philippine Bureau of Forestry, the bureau’s need for fully “matured” Filipino forestry workers stalled the implementation of forestry work.

Instruction, Ahern believed, would come with “a sufficient number of trained foresters,” who would be “secured from other countries.”<sup>47</sup> But, attracting Europeans and Americans to the islands for forestry work was much more difficult than Ahern thought it would be. Initially, he imagined himself within a larger world of tropical colonial forestry expertise that transcended national or even imperial borders. He invited Berthold Ribbentrop, the British forester in India, to come to Manila and offer advice because

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<sup>44</sup> *Report* (1903), 3.

<sup>45</sup> Kramer, *The Blood of Government*, 199-200.

<sup>46</sup> *Ibid.*, 199.

<sup>47</sup> *Report* (1903), 3.

“The problems confronting the forestry officials in India forty years ago, when the service was in its infancy, were very similar to those now to be solved in the Philippines,” but Ribbentrop declined.<sup>48</sup> Ahern tried to recruit European forestry experts from “Germany, India, and Java,” but he received notification that the U.S. colonial administration was not permitting the hiring of foreigners within the American protectorate. Hoping that the U.S. administration would make exceptions because these much needed experts were in short supply, Ahern realized by 1903 that the Americans could not draw Europeans to the Philippines because the U.S. system did not offer competitive “leaves of absence, retirements for disability, and lengths of service, salaries, traveling expenses, etc.”<sup>49</sup> Thereafter, Ahern relied solely upon the young American academies to provide forestry experts.

Such men were not easy to come by in 1900. Ahern’s initial call for experts traveled up the chain of command from the Philippine Commission to the Secretary of War and finally to Pinchot in Washington, D.C. Taft, the Governor-General, requested “four practical foresters” who “must be fully qualified, of good character, fully supplied with books and material for tropical field work.” Pinchot responded to Taft’s request as best he could, but he could only muster “two trained lumbermen with some knowledge of forestry.”<sup>50</sup> Grant Bruce and Edward Hamilton traveled to Washington where they were required to take the civil service examination in order to secure their passage to San

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<sup>48</sup> *Report* (1902), 452.

<sup>49</sup> *Report* (1903), 278.

<sup>50</sup> “Forestry in the Philippines,” Troy, N.Y. *Times* (March 8, 1901) FHS USFS Newspaper Clipping File Box 29, Folder, “Philippines Forests and Forestry 2;” “Work of the Philippine Forest Bureau,” *The Forester* (March, 1900), 74; Gifford Pinchot to Elihu Root (December 31, 1900) NARA 2, RG 350, “Correspondence.”

Francisco as their port of departure. After their exam, they were to take military transportation to the Philippines and arrive in the spring of 1901. The records do not indicate why Bruce or Hamilton do not appear on the Bureau's personnel records for 1902. Either they stayed in the islands and made better money working for a private logging firm or they returned to the United States.<sup>51</sup> Regardless, these two did not swell the roster that Ahern was so desperate to fill.

Encouraged by the fact that American men were beginning to be trained in forestry, Ahern hoped that he could recruit American graduates from the new forestry programs at Yale, Cornell, and Biltmore to work in the Philippines.<sup>52</sup> In 1900, Ahern wrote to Bernhard Fernow requesting at least "six expert foresters to assist him in reorganizing the Forestry Bureau."<sup>53</sup> Ahern also asked Graves and Carl Schenck to encourage their students to consider Philippine service.<sup>54</sup> However, Pinchot, at the head of the U.S. Division of Forestry, also needed the new forestry graduates, and he recruited many from the early forestry classes.<sup>55</sup> Nonetheless, without a school in the Philippines, Ahern depended on the new U.S. forestry academies for staff members who would not only get the bureau up and running, but also would begin to instruct Filipinos in American forestry techniques.

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<sup>51</sup> Ahern omitted names of employees as was customary for military and government reports. But, a record of all Philippine Bureau of Forestry employees for 1902 has survived. See "Personnel of the Forestry Bureau," (November, 1902), Pinchot Papers, LOC, Box 586.

<sup>52</sup> *Report* (1902), 452, 456.

<sup>53</sup> "Forestry in the Philippines," Troy, N.Y. *Times* (October 31, 1900) FHS USFS Newspaper Clipping File Box 29, Folder, "Philippines Forests and Forestry 2."

<sup>54</sup> *Report* (1901), 9.

<sup>55</sup> Miller and Lewis, "A Contested Past," 40.

In 1901, barely one year after he organized the Bureau in Manila, Ahern traveled to the United States to recruit American forestry graduates for service in the Philippines. *The Forester* ran several small articles explaining that Ahern would “visit the forest schools of Yale, Cornell, and Biltmore for conferences with professors and students” in order to promote forestry service in the Philippines.<sup>56</sup> The forestry graduates in the United States were just the sort of men that Ahern and Pinchot hoped to recruit for government service. Yale and the other forestry schools emphasized certain standards of education and fostered the “cult of manhood” that made middle class young men into professional men. As James Lewis has noted, during the early years of forestry recruitment in the United States, the school leaders complained that many of those with interest in forestry did not understand the profession and regarded it as “landscape gardening.” Also, many early forestry students were “the sons of lumbermen,” but the forestry academies sought out students with both a strong academic background and a desire to work in the woods. That is, they recruited students from middle and upper-middle class backgrounds in order to be sure that recruits could handle the technical and academic aspects of forestry as well as the manual labor. For example, Robert Rosenbluth, a Yale forestry grad who traveled on special investigative assignment to the Philippines in 1907, turned down professional opportunities in both banking and medicine to pursue forestry. Like Rosenbluth, many of the first generation of forestry students came the Northeastern United States and had enjoyed “a fine liberal arts education” that allowed them to seek out professional careers.<sup>57</sup> By 1912, admission in

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<sup>56</sup> *The Forester* (August, 1901), 205

<sup>57</sup> Robert Rosenbluth, “The Many Lives of Robert Rosenbluth: Excerpts from his Autobiography,” *Forest History* Vol. 8, No. 1/2 (Spring-Summer, 1964), 17-21.

forestry academies had become more selective and privileged strong educational backgrounds.<sup>58</sup> These criteria helped to create greater respect for forestry as a profession.

Before entering government service, the forestry grads had to pass civil service exams as part the reform effort to fill government positions with trained experts.<sup>59</sup> On September 9, 1901 potential applicants gathered in Washington D.C. for a civil service examination to serve in the Philippine Bureau. “The examination,” according to *The Forester* “required that all candidates should be graduates of forest schools,” and it listed the names of those who were selected for Philippine service. Ralph C. Bryant, W.W. Clark, and William Klemme had all graduated from the New York State College of Forestry at Cornell, and Edward Hareford had trained at Biltmore. Edward Hagger was “a graduate of the Swiss Forest School,” and both E.M. Griffith, who had schooled in Europe, and Samuel T. Neely were transferred out of the U.S. Department of Agriculture where Griffith had served as a Forester and Neely in a timber-testing workshop.<sup>60</sup> With his new corps of American forestry experts in tow, Ahern headed back to Manila. But the work that Ahern had planned for the Philippine forests far outpaced the capacity of his new set of academically trained experts, and the burden of many new responsibilities, learning languages and environments weighed heavy on the recruits. In addition, the U.S. forestry schools never lived up to Ahern’s ideal. Not only were the U.S. forestry schools recent developments with few graduates, but also the graduates were generally reluctant

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<sup>58</sup> Skok, “Forestry Education in the United States,” 172.

<sup>59</sup> For expertise and government service see Daniel T. Rodgers, *Atlantic Crossings: Social Politic in a Progressive Age* (Cambridge, MA: Belknap Press, 1998), 109-110; Skowronek, 50-52; Wiebe, 60-61; Haber, *Efficiency and Uplift*, 101-104.

<sup>60</sup> *The Forester* (September, 1901), 233-234; F.G. Wilson, *E.M. Griffith and the Early Story of Wisconsin Forestry* (Madison, WI: Department of Natural Resources, 1982), 5.

to move to the Philippines because of low pay, tropical dangers, and the difficulty involved in learning tropical forest environments. Moreover, due to Ahern's militant style of leadership, Henry Graves reported in 1904, "I would advise no man to enter the Philippine Forest Service under the present condition."<sup>61</sup> Only in 1910 did the Bureau employ as many as ten trained American Foresters.<sup>62</sup>

The bureau was forced instead to employ Filipino/as in many positions and set aside Ahern's idealistic notions that a large force of trained American or European foresters would teach Filipinos forestry over time. After 1901, when he returned to the Philippines with only the handful of experts (several of whom did not remain in the Philippines long), Ahern realized that he must move on with the development of a forestry program regardless of his difficulties with personnel.

In 1902, the first test of Ahern's ability to establish forestry in the colony was at hand: Gifford Pinchot was on his way to the islands to assess and review the Philippine forests and Ahern's progress. To demonstrate that Philippine forestry was moving forward, Ahern attempted to expand the bureau's reach into many provinces, some of which were yet in a state of revolt, and he depended upon Filipino/as to conduct the work. Because of the shortage of U.S. forestry graduates, many Filipino/as found work in the bureau of Forestry who would not have been allowed in otherwise. That included women, local officials, discharged soldiers, and other untrained individuals. In later years, they would be culled from the service.

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<sup>61</sup> Graves, "Confidential Report," 9.

<sup>62</sup> *Report* (1910), 6.



By November 1902, the bureau was staffed with a large number of Filipino/a assistant foresters, rangers, and clerks. The bureau established several new forest stations in the provinces where logging was important or non-timber forest products abounded, and Ahern reported, “All of the stations (42) beyond Manila are filled by Filipinos.”<sup>63</sup> With no way to train forestry officials during the early years, Ahern mostly empowered local officials. In Mindanao, for example, “A Moro dato, Rajah Mudah Mandi,” who apparently had no forestry training but was a powerful local figure, “was appointed assistant forester and placed in charge of the station at Zamboanga.”<sup>64</sup> Although additional evidence is scarce, gendered endings of Hispanicized first names in the 1902 personnel records suggest that at least two women also worked for the bureau in positions that would later be entirely held by men. Apalonia Tapia served as an assistant forester in Pasacao, Camarines Sur, with seven years previous experience in forestry, and Guadencia Chua Poco worked as a ranger in Iligan, Isabela, with three years’ experience in that position.<sup>65</sup> The presence of women in forestry occupations, at a time when Americans imagined forestry work to require masculine traits and sensibilities, reveals Ahern’s dependence upon Filipino/as who sought out forestry work. Their experiences under Spanish authorities, and their local, familial and political connections aided the bureau’s early efforts. After the establishment of the Forestry School in the Philippines, the Americans’ dual sense that masculinity and esprit de corps were essential to forestry service would prevent women from occupying such positions. Ahern’s initial force

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<sup>63</sup> *Report* (1902), 456.

<sup>64</sup> *Ibid.*, 454. The word, “dato” here is misspelling of the Tagalog “*datu*” indicating a chief or headman. According to Vicente Rafael, “The head of a *barangay* or village was a *datu*.” See Vicente Rafael, *Contracting Colonialism: Translation and Christian Conversion in Tagalog Society under Early Spanish Rule* (Ithaca, NY: Cornell University Press, 1988), 139.

<sup>65</sup> “Personnel of the Forestry Bureau,” (November, 1902), Pinchot Papers, LOC Box 586.

therefore consisted of few forest experts, but rather agents who collected revenue and reported on forest conditions, logging, and collecting of non-timber forest products in provincial forests. This early U.S. forestry effort looked scarcely different than its Spanish predecessor. Filipino/as made up much more of the service than Ahern and the colonial administration would have liked, but the lack of American personnel as well as Filipino/as' wishes to serve in the forestry service dictated how the Bureau staffed the main office in Manila and the provincial stations.

Ahern's notions of what counted as competency privileged academic knowledge as compared to place-based knowledge and invoked a racialized understanding of Filipino/as' "capacity" for technical work. First, forestry competency meant the ability to understand technologies taught in European and American academies. According Ahern, "The Filipino knows nothing of estimating standing timber, selection of trees to be felled, and protection of younger growth."<sup>66</sup> U.S. newspapers picked up and repeated this critique because it demonstrated both the legitimacy of U.S. colonialism and the need for American experts in the Philippines. But, this comment also hid the fact that very few Americans knew these academically-derived forestry technologies either.

Though he considered them untrained, Ahern relied upon many Filipino/as to put the bureau on its feet. One of Ahern's greatest assets during the bureau's early years was Regino Garcia, a Filipino "botanist and artist, with more than thirty-five years' practical experience in every region of the Philippines."<sup>67</sup> Regino Garcia's son, Simeon, also came to work for Ahern and brought three years experience as an assistant forester within the

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<sup>66</sup> *Report* (1901), 3.

<sup>67</sup> *Report* (1902), 457.

*Inspeccion de Montes*. Regino's vast experience far outstripped any of the American forestry officials' experience in forestry, botany, or government administration. In addition to helping Ahern collect information for the early bureau publication, *Important Philippine Woods* (1901), Regino also wrote a brief history of the *Inspeccion de Montes* to help Ahern understand how the Spanish had administered the forests.<sup>68</sup> Even though Regino Garcia offered valuable botanical knowledge, Ahern complained in a letter to Bernhard Fernow that Garcia "is supposed to be the finest botanist in the Islands," but, "he is not even a fair botanist, guesses at everything" (underlines in original). Imagining himself more able to arrange the bureau's botanical knowledge, Ahern conducted his own investigations and revised much of Garcia's work.<sup>69</sup> Furthermore, in 1901, Elmer D. Merrill, who received a Masters of Arts degree from the University of Maine in 1899, arrived in Manila to hold a dual position as head botanist for the bureaus of Agriculture and Forestry. Garcia became *his* assistant. Regino's specialized knowledge of Philippine botany as well as the operations of the *Inspeccion de Montes* allowed Ahern and the U.S. administrators to understand and begin to act on the history of forestry in the islands. But, despite Garcia's experience, he bore the dual taints of "Filipino capacity" and experience in the *Inspeccion de Montes* and therefore did not fit Americans' idealized model of a competent Philippine Bureau of Forestry official. By 1902, Ahern had hired at least eleven Filipinos with ten to eighteen years' experience and twelve Filipino/as with three

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<sup>68</sup> Regino Garcia, "Brief Review of the Forestry Service during the Spanish Government from 1863 to 1898," Pinchot Papers, LOC, Box 586.

<sup>69</sup> George Ahern to Dr. B E Fernow (September 7, 1900), Fernow Papers Cornell University, Kroch Rare and Manuscript Collection, Box 1, Folder 1.

to nine years' experience in forestry work – greater experience in forestry than almost any American had brought to the islands.<sup>70</sup>

Several other *meztisos* and Filipino/as came to work for Ahern because they had worked for the short-lived forestry bureau of the revolutionaries or *Insurrectos*. After 1896, the Filipino nationalists had established a forestry service partly as a claim to competent independent governance. The revolutionary forestry employees collected revenue during the revolution and helped to connect rural timber cutters to lumber dealers in Manila.<sup>71</sup> Rafael Medina was one of these revolutionary officials, and he received “special mention” in the *Forestry Golden Book* because of his early forestry work. Medina had trained at the Military Academy in Madrid, become a lieutenant in the Spanish Army, switched sides to serve the revolution, and acted as an aide for General Tinio in central Luzon during both the revolution and the Filipino-American War. Later, he served the Philippine Bureau of Forestry beginning as a ranger in 1901. He advanced to the position of Chief of the Division of Surveys, and the *Golden Book* credited him with “the present system of surveying and map making and the accumulation of valuable forestry information.”<sup>72</sup> Medina retired in 1935. But, for more than thirty years he worked in various forestry positions in central Luzon, and taught and trained a number of young Filipinos who expressed interest in forestry work.

Rafael Medina embodied forestry as a nationalist enterprise. His life and occupations connected the nationalist yearnings of the Katipunan revolutionaries and the

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<sup>70</sup> “Personnel of the Forestry Bureau.”

<sup>71</sup> Ahern to Fernow (September 7, 1900); N.A., “Botanical Work in the Philippines,” *Science* Vol. 19, No. 482 (March 25, 1904), 516.

<sup>72</sup> *Forestry Golden Book*, 178; “Personnel of the Forestry Bureau,” 2; Samuel K. Tan, *The Filipino-American War, 1899-1913* (Quezon City: University of the Philippines Press, 2002), 108.

bureau's claim to serve the Filipino/a people. That is, Medina is an example of Filipino/as who began to accept U.S. intervention as a pathway not only to independence, but also to a new professional role in the life of the nation.<sup>73</sup> For those Filipino/as who did not fit within the elite-dominated Malolos Republic, working with the Americans offered opportunities. According to Reynaldo Ileto, the first expressions of professionalism-as-nationalism came from Filipinos, such as Jose Rizal, who studied medicine. Medicine, says Ileto, "formed the vanguard of science during the nineteenth century," and allowed Rizal and others to make claims on the Enlightenment tradition of progress through rational learning.<sup>74</sup> In this way, medicine served as the basis for Philippine nationalism in the late nineteenth century by demonstrating Filipinos ability to use the colonizers' means of individual betterment.

But, in the early twentieth century, medicine was but one science that could be used to demonstrate progress; forestry was another. U.S. forestry advocates argued that forestry was integral to modern state-making. Medina, therefore, appears as a latter-day Rizal-like figure who engaged forestry as a nationalist enterprise not merely as a claim to intellectual progress, as medicine was for Rizal, but rather as a means of erecting a modern Philippine state. In the way that Rizal used medicine to challenge the Spanish notions that peoples in the Philippines were not worthy of independence, Medina and others used forestry service to challenge the American notions that Filipino/as lacked the

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<sup>73</sup> Warwick Anderson makes this point about medical professionals during the early U.S. colonial period. See Anderson, *Colonial Pathologies*, 191. Vicente Rafael also describes this phenomenon among *mestizo* elites as an aspect of "official nationalism." See Vicente L. Rafael, *White Love and Other Events in Filipino History* (Durham, NC: Duke University Press, 2000), 107-108.

<sup>74</sup> Reynaldo C. Ileto, "Outlines of a Non-linear Emplotment of Philippine History," in Lim Teck Ghee, *Reflections on Development in Southeast Asia* (Singapore: Institute of Southeast Asian Studies, 1988), 136.

capacity for self-government. For many Filipinos, forestry was part of an evolving nationalism that avoided radicalism in favor of collaboration. Medina satisfied Ahern because the former revolutionary was imbued with an aura of dedication and self-sacrificing spirit (despite lacking a Yale education).<sup>75</sup> Just as important to Ahern would have been Medina's knowledge of the landscape and local communities. Not enough information survives to know how Medina perceived the Philippine Bureau of Forestry, but scholars of Philippine history would likely set him among those who viewed "‘reform’ and ‘revolution’ not as mutually exclusive routes but as intertwined" pathways to nationhood.<sup>76</sup>

But even while Ahern depended upon these notable employees such as Garcia and Medina to put the Bureau on stable footing, he doubted the abilities of the Filipino/a applicants and employees. He reorganized the Bureau's office in Manila, with Regino Garcia's assistance, and he planned to dispatch field parties as soon as the personnel were available to do so. He hoped to reestablish revenue collection, forest inventories, and botanical classifications carried on under the *Inspeccion General de Montes*. But as applicants sought Ahern out, including several Filipino/as who had worked for the *Inspeccion de Montes*, Ahern often found that they did not live up to his ideal of government service. He received applications from as many as "fourteen foresters and thirty rangers," though he only accepted "8 Foresters & 15 Rangers – men with good

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<sup>75</sup> For a discussion on how the nationalism of Rizal et al. contrasted with the "new nationalism" of Medina and others like him see, Abinales and Amoroso, *State and Society in the Philippines*, 129; and Anderson, *Colonial Pathologies*, 191-192.

<sup>76</sup> Patricio N. Abinales and Donna J. Amoroso, *State and Society in the Philippines*, 129. See also Reynaldo C. Ileto, *Pasyon and Revolution: Popular Movements in the Philippines, 1840-1910* (Manila: Ateneo de Manila University Press, 1979), 185.

records and long service.”<sup>77</sup> Having an almost dictatorial control over the Bureau, Ahern turned many applicants away and fired a number of Filipino officials for “neglect of duty and disobedience of orders.” He released others because they refused to work in the provinces away from central Luzon where they feared being perceived as tax collectors during the ongoing revolution.<sup>78</sup> Though driven by the colonial administration’s need to collect revenue, promote investments and commercial opportunities, and, of course, demonstrate success, Ahern generated his own managerial obstacles.

Believing that they understood Filipino/as’ capacity for environmental knowledge, Ahern and other Americans persisted in privileging U.S. and European academic knowledge while devaluing Filipino/as’ uses and understandings of the forests as mere “native” knowledge. In 1902, Ahern noted that the field parties consisted of “1 forester, 1 inspector, 1 clerk, 1 botanist or collector, and about 5 to 10 natives as cooks, carriers, tree namers, calipermen, guides, and laborers.”<sup>79</sup> The way in which Ahern juxtaposed expert occupations – forester, inspector, clerk, botanist – with “5 to 10 natives” suggested that the expert roles would be filled by Europeans or Americans; natives were only to perform unspecialized manual labor. Moreover, by grouping such jobs as “tree namers” and “guides” along with “carriers” and “laborers,” Americans imagined the work that natives performed to be unskilled. In the United States too, Americans had long drawn on the division of skilled and unskilled labor to support racial, ethnic, and gendered divisions in the workplace. Of course, Americans depended upon

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<sup>77</sup> *Report* (1900), 2; George Ahern to Dr. B E Fernow (September 7, 1900), Fernow Papers Cornell University, Kroch Rare and Manuscript Collection, Box 1, Folder 1.

<sup>78</sup> *Report* (1901), 3; N.A., “Department of Agriculture Press Bulletin #12,” Pinchot Papers, LOC, Box 586.

<sup>79</sup> *Report* (1902), 457.

so-called unskilled or manual labor to conduct experts' work such as creating botanical taxonomies and assessing the value of forest products. Indeed, Filipino/as' knowledge was not so deficient that American experts failed to interpret and reproduce it as scientific expertise.

Furthermore, Ahern separated expert occupations and the work that natives performed as part of his general attempt to demonstrate that colonialism was unfolding as Americans wished. He tried to present the colony as a socially separate space founded not upon race, but upon capacity for technical work. This attempt contained its ironies. Guides and "tree namers" possessed the knowledge that allowed them to perform the technical work that Americans could not. In fact, all of the "native" laborers had specialized knowledge of the local people and environments that Americans did not know. Americans may have imagined that cooks, for example, merely performed simple, but necessary functions of field work and camp life. But cooks' knowledge of the plants and animals was essential, specialized, and technically savvy.

A lack of local botanical knowledge had fatal consequences for the bureau in 1908 and made Ahern's job of recruiting Americans even more difficult. In May of 1908, Forester H.D. Everett, who had earned an M.S. of Forestry from the University of Michigan in 1904, organized a field party to investigate previously unexploited areas of Negros. Negros remained a highly profitable island for both loggers and sugar planters. In late April, Everett, who was the forester-in-charge of the Vasayas island chain, took two Filipino rangers to the Bayauan Mountains in southern Negros to map and study the area's natural resources. On Negros, he met with T.R. Wakeley, superintendent of schools there, and Wakeley decided to join Everett on the field expedition. The two



Americans hired local guides as was customary when bureau officials traveled into regions unknown to them. One of the guides, a man Ahern later referred to as Ayhao, designed to murder the party of forestry workers once they were far into the Bayauan Mountains. On approximately May 11, Ayhao and presumably some associates incapacitated the party with a plant that they knew emitted a debilitating fume when burned. Once the party was disabled, the killers struck. Ahern only learned a few details of the murders when he led a small group of Americans and Filipinos to the Bayauan Mountains to recover the bodies of Everett, Wakeley, and their Filipino assistants (who went unnamed in the official reports). According to the *Forestry Quarterly*, which carried the most thorough account of the event, Ahern could only gather that Ayhao wanted to kill the men for personal, but otherwise unknown, reasons. The power of local environmental knowledge betrayed the Americans' belief that their knowledge was the best, truest, or most significant knowledge to be had in the forest.<sup>80</sup> Moreover, Everett's death made the Philippines appear as dangerous for forestry workers as some had warned.

For Ahern and Pinchot, the establishment of U.S. forestry in the Philippines was a more difficult process than they had anticipated, and it exposed not only Ahern's shortcomings, but also limits of U.S. imperial power. Because the U.S. forestry was founded in a dual mandate Ahern was compelled to seek out individuals who understood the importance of disinterested civil service. But he had stepped into a milieu that he did not understand. He relied on his military training, the notion of racial capacity, and the paternalism within the American civilizing mission to advance U.S. forestry in the

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<sup>80</sup> See *Forestry Quarterly* Vol. VI, No. 3 (September, 1908), 315-316; *Report* (1908), 10; "Murdered in the Philippines: New Yorker in Forestry Service and Chicago Teacher Killed," *New York Times* (June 25, 1908), ProQuest Historical Newspapers, pg. 5.

Philippines. And, although he found both Filipino/as and Americans were willing to work in the Philippine Bureau of Forestry, his militant style of command did not reflect the esprit de corps that was an integral part of American forestry. Only with the addition of more U.S. forestry graduates and the opening of the School of Forestry did esprit de corps and forestry's optimism begin to permeate the Philippine Bureau of Forestry.

### **Making Men in the School of Forestry**

In 1902, when Pinchot and Ahern toured a limited number of islands and collaborated on future policies, the two men recommended to the Philippine Commission that a formal forestry school be located in the Bataan province. They believed the school should recruit thirty Filipino students. The school would act as a "secondary or ranger school" and would train Filipinos in the most modern logging methods and regulations. No official ranger program began until 1907, but Ahern's continuing campaign to establish a school raised a new set of questions about how Americans should facilitate Filipino forestry education and what types of skills they should emphasize. Americans also questioned which Filipinos should be recruited into such a school. The establishment of a Philippine school of forestry forced American forestry officials and educators to

decide and articulate what qualities Philippine forestry would require in the men who carried it out.<sup>81</sup>

As Pinchot and Ahern planned to recruit Filipinos as forest rangers, they sought ways to ease Ahern's difficulties with staff members and to facilitate the immediate work of making the forests productive. Applying U.S. civil service requirements and attempting to address problems specific to the Philippines, Pinchot determined that "students should be selected by local competitive examination, one from each province" and that the exams should be administered in English.<sup>82</sup> Ahern agreed; by selecting students from a variety of provinces, then presumably they would be willing to return home to take up forestry work. This would address one of his regular frustrations – the unwillingness of forestry employees from Manila to work in the distant provinces. That the exams were to be administered in English showed how they privileged elite individuals over others, just as exams did in the United States. Middle or upper-middle class Filipinos with backgrounds in English education, experience with exams, and letters of recommendation had distinct advantages. The exams, like those in the United States, probed into academic, professional, *and* personal backgrounds. Only those applicants who could provide evidence of stable, upright backgrounds and pass medical examinations were eligible. Similar to the recruitment of forestry employees in the

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<sup>81</sup> Kramer, *The Blood of Government*, 166.

<sup>82</sup> *Report* (1902), 322. For more on Pinchot's dedication to civil service exams in the USFS see Harold K. Steen, *The U.S. Forest Service: A History* (Durham, NC: Forest History Society, 2004) 81-84.

United States, the exams and the criteria that Pinchot and Ahern chose demonstrated that they sought out middle or upper-middle class students. from elite provincial families.<sup>83</sup>

When Henry Graves surveyed the Bureau in 1904, his assessment presented a different view of future Philippine forestry students. Graves's ideas were based less upon solving Ahern's managerial challenges and more upon securing loyal forestry acolytes who would accept challenging work with alacrity. Graves disliked the idea of written examinations. He claimed that examinations for admission were "bad, because only those who understand English could pass the examination." He explained,

"A scholastic standard would be immediately set up, and the candidates for the service of the school would be men who have had schooling, but not necessarily men who have a knowledge of the woods; I feel confident that the wrong type of man would in this manner be brought into the service."<sup>84</sup>

For Graves, "the wrong type of man" was a man who sought government work for the stability and status that it conferred, but otherwise cared little for forests or outdoor work. Part of the Progressive civil service reform was to avoid such men. Instead Graves recommended that district officers appoint students. During his survey of the Philippines in 1904 Graves noted, "Every officer has a certain number of young natives more or less constantly in his employ, either as cutters, markers, guides, or carriers. He is able to judge the capacity of these young men, and select such as have promise of being efficient woodsmen."<sup>85</sup> Graves's concerns posed a particular challenge to Ahern and the colonial administration. Instead of a standard exam in English, Graves recommended the

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<sup>83</sup> "Philippine Civil Service Application for Examination," NARA, General Records Acc. 20639-20660-1, Box 853.

<sup>84</sup> Graves, "Confidential Report," 12.

<sup>85</sup> *Ibid.*, 12-13.

appointment of young men from the provinces based upon the opinions of district officers, some of whom were Filipino/as. According to Florencio Tamesis, who became the first Filipino Director of Forestry in 1937, he was recruited in just this way. He remembered, “We were recruited from all over the islands, first picked up by local forest officers, the provincial ‘monteros’ (Rangers) who have personal acquaintance with the family of the prospective forest officer.”<sup>86</sup> Following Graves’s recommendation, the selection of future bureau employees would come out of the interactions between local people and forestry officials rather than by a tool of the central office in Manila. In addition, Graves may have been concerned with cultivating a sense of loyalty among provinces where sentiments against Americans ran high.

In 1950, Tamesis described how he became involved with U.S. forestry and his story reflects both the paternal relationship and the localized recruitment that characterized early U.S. forestry in the Philippines. (Figure 5.1) In 1906 Tamesis was recruited by William H. Kobbe, one of the few American foresters in the islands at that time. Kobbe graduated from Yale in 1904, went to work for Ahern, and received an appointment to the logging-rich province of Tayabas – Tamesis’s home. Reflecting the self-sacrifice and schooling that gave U.S. forestry its character, Tamesis recalled that Kobbe “came out to the Philippines and sacrificed his early manhood in carrying out the ideal imparted to him in college where he took up forestry.” Tamesis also recounted how his relationship with Kobbe inspired him and was “probably one reason for my having taken this life work.”<sup>87</sup> Tamesis recalled about his time with Kobbe, “While serving him

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<sup>86</sup> Tamesis, *Forestry Golden Book*, 190.

<sup>87</sup> *Ibid.*, 192. Tamesis traveled to the University of Washington and received his B.S.F. in 1922 and M.S.F. in 1923. He was from Unisan, Quezon, though at the time of his birth the province was still named

as his house-boy and cook he would sit down on evenings with me even in the field and teach me or read to me the book that he had and gave me regular assignments to read and later discuss.”<sup>88</sup> This story contains the cornerstone paternalism of the U.S. civilizing mission in the Philippines that Vicente Rafael has described. According to Rafael, “Colonial politics was conceived of as a homosocial affair involving the tutelary bonding of white fathers and their male native-mestizo apprentices.”<sup>89</sup> Beyond the “political education” that Taft had named U.S. imperialism, the white father-Filipino son relationship contained lessons of appropriate manhood and a respect for whiteness. Though Kobbe and Tamesis were twenty-five and eighteen years’ old respectively when they met, their father-son relationship was based upon white paternalism. What Kobbe taught, as much as the forestry techniques that he had learned at Yale, was an appropriate respect for white men as distributors of knowledge, status, and success.

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Tayabas. In 1946, Tayabas was renamed Quezon, and in 1951, the province was partitioned into the two provinces of Aurora in the north and Quezon in the south.

<sup>88</sup> Tamesis, *Forestry Golden Book*, 192.

<sup>89</sup> Rafael, *White Love*, 48.

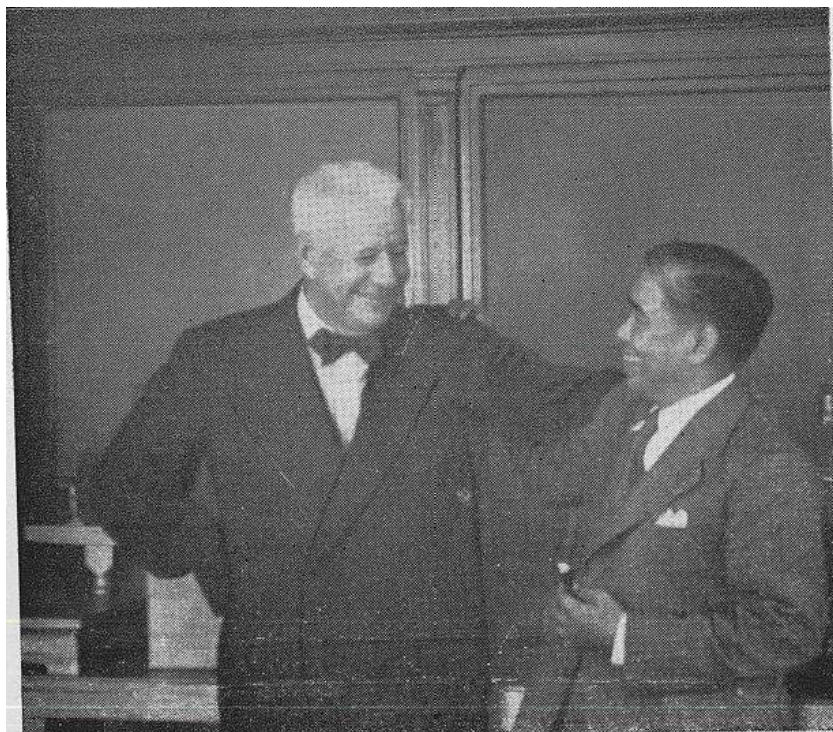


Figure 5.1 Kobbe and Tamesis embrace in 1950 at the anniversary celebration of the Bureau of Forestry.

This type of bonding between colonial forestry officials and local students contained an ideal of imperialism, but it was only one model of recruitment. After all, few American foresters, like Kobbe, existed in the islands. More often, recruitment of future forestry officers came from a mixture of American officials and localized Filipino/a communities. Filipino/a politicians, rangers, families, and some American foresters and school-teachers collaborated on the selection of forestry candidates. Because of this, provincial elites maintained some control over the selection of students who would one day make up the local authorities governing local forests. Despite Americans' best efforts to impart a respect for whiteness and a loyalty to the U.S. colonial administration, Filipino/as at local levels retained their own ideas about the political uses that forestry authority could convey. Forestry, like much else in Philippine

politics, was constructed from the local level and derived its power from local connections more than from Manila-based political circles or U.S. colonial officials.<sup>90</sup>

Henry Graves's concerns with examinations also went beyond loyalty; he worried that examinations, which privileged elites, defied professional forestry's requirements of both class and gender. Graves believed that Filipino forestry officials should not necessarily be drawn from educated elites but rather from men who liked to work in the woods. Graves indicated that a recommendation from the local forest officer, some of whom were Filipino/a would generate better rangers than examinations based upon assumptions of how class, race, and environment operated outside of the United States. Drawing on an example from India, Graves warned that in India forest officials,

“often complain that the scholastic requirements at Dehra Dun are so high that they are now getting into the service a lot of high class Brahmins, or effete Bangali[sic] Babus, who can pass excellent examinations in forestry, but who are in no way fitted to do the rough and tumble work of a ranger.”<sup>91</sup>

Graves's assumptions about class status, masculinity, and the capacity “to do the rough and tumble work of a ranger” suggest that working-class Filipinos who expressed interest in forestry would make the best rangers. The irony was that both he and Pinchot came from elite American families and crafted careers as leading forestry authorities. In this light, Graves's comment is less about class and more about Americans' perceptions of how an exceptional American environment shaped Anglo-Saxon American men. For Americans, men such as Graves, Roosevelt, and Pinchot could be successful forestry

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<sup>90</sup> Abinales and Amoroso, *State and Society in the Philippines*, 135.

<sup>91</sup> Graves, “Confidential Report,” 14.



officials because despite their elite upbringing, they had crafted themselves into outdoor types. They believed that they had not let the depravities of urban life, business and government sap their manliness. Rather, by working in the woods they could have the best of both worlds: sophisticated urbanity and working class masculinity. In the Philippines, without the specifically *American* wilderness experience to provide such an opportunity, Filipino elites' remained feminized. The last thing that the bureau needed, Graves seemed to say, was the inclusion of "effete" upper-class Filipinos who wanted to be part of civil service, but were disinterested in the blue-collar realities of forest work. Provincial Filipinos carried more promise, he believed, because they avoided the taint of Manila society and the feminized realm of upper-class education that was meant to produce urban professionals. For Graves, only those who expressed an interest in forestry work demonstrated the appropriate masculinity for forestry service. Yet, they remained as children to the white colonial fathers. The implication in forestry, as within other branches of the colonial state, was that manhood only came with nationhood, and Americans retained the power to determine when both were at hand.

By 1907, the organization of the Bureau had not gone entirely as Ahern had hoped. The force of American foresters never remained consistent, most American forestry graduates spent only a year or two working for the Philippine Bureau of Forestry. Those who did were burdened by a backlog of unfinished projects. The few American foresters employed in the field had their hands full with inspections, licenses, surveys, mapping, and instruction of the Filipino assistants and rangers. Of the forty-three total men employed in the Bureau's field force during 1907, twenty-nine were Filipinos who occupied six assistant forester positions and twenty-three ranger positions. Ahern realized

that most American graduates of U.S. forestry schools were unlikely to take up Philippine service, and “that the men who are to care for the Philippine forests must come from among the Filipinos themselves.”<sup>92</sup> Ahern had advocated for a ranger training school in the Philippines since 1900, but only with mounting backlogs and limited American interest did Ahern and the U.S. colonial state understand that Filipinos needed to be empowered to further the U.S. forestry mission.

At the 1907 Foresters’ Conference, the Americans acted on the ranger training program and decided to establish a “practical school of instruction” near the site of the Cadwallader Lumber Company’s Bataan operation.<sup>93</sup> The new ranger training program would include on-the-job instruction at Bataan and in the few provinces where U.S. foresters worked. As the American colonial state smoothed out the details of a forestry school, U.S. foresters began to train Filipinos as rangers to conduct field investigations.<sup>94</sup> At the Cadwallader site and elsewhere, the bureau used the students’ labor to develop the capitalist potential of the forest through surveys, inspections, and map-making. This early training consisted almost entirely of utilization; reproduction was not yet an important bureau concern. This training served well enough that Ahern reported in 1909, “Much credit for the rapid field work now being accomplished is due to the assistance furnished by well-trained subordinate officers,” all of whom were Filipinos. At the Cadwallader site in Bataan, the Bureau’s central occupation came into focus; they needed to train Filipinos to work with industrial logging firms to exploit the forests. As the students’ labor went to

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<sup>92</sup> George Ahern, *A Few Pertinent Facts Concerning the Philippine Forests and Needs of the Forest that Should Interest Every Filipino* (Manila: BOP, 1908), 19.

<sup>93</sup> Report (1908), 9.

<sup>94</sup> Report (1907), 17-18.

helping the Cadwallader Company organize their logging enterprise, the knowledge that students gained reflected the work of making a logging company profitable and successful. It was, after all, one part of the bureau's dual mission – to foster utilization.

The training at the Cadwallader site in Bataan illuminated the bureau's focus on practical utilization as an aid to the timber and lumber industries. The other half of the dual mandate – environmental reform – was not yet a necessity because large-scale logging operations were only just getting under way. Ahern and others believed that the bureau would have plenty of time for forestry scientists to conclude how best to reproduce the cut-over forests. This effort to establish a forestry school demonstrated that the Americans' dual mission had split at a crucial juncture. The utilization of forest products took precedence over reproduction of cut-over lands just as Filipinos were beginning to be indoctrinated into American-styled forestry. This was due to the youth of American forestry at home, which still regarded utilization as a separate enterprise from reproduction. Although silviculture science in the United States had begun to emphasize the intertwined nature of use and reproduction, they remained separate academic studies. Whereas utilization had a long tradition, reproduction through silvicultural means was in its infancy in the U.S. academies.<sup>95</sup> In the colonial context of the Philippines, the Americans allowed that Filipinos, with their presumed limited capacity for technical work, could accomplish the work of utilization – tree identification, revenue collection, assessment of fines, and issuance of permits. Reproduction fell to the U.S.-schooled forestry staff who believed that they had the time and the knowledge to develop the reproductive qualities of the Philippine forests.

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<sup>95</sup> Pinchot, *Breaking New Ground*, 143-144.

The ranger training program satisfied both the bureau and the students. The bureau received increases in its trained staff as well as labor to complete the backlog of duties and tasks. For the students, the training offered an opportunity to establish careers in the U.S. colonial government that promised eventual independence and provided for them an important role in the Philippine nation. The “student assistants” were given the title “temporary rangers,” and some, such as Florencio Tamesis, used their experiences to establish more permanent positions within the bureau.<sup>96</sup> According to Ahern, many of the temporary rangers distinguished themselves during late 1908 and 1909, and were kept on. In order to demonstrate his and the bureau’s successes, Ahern honored the temporary rangers’ work by recording in official reports that they had plotted and cleared 6,015 kilometers of trails and inspected 184 potential homestead sites and 29 logging sites.<sup>97</sup> As with the advent of market-based logging discussed in chapter 2, it was Filipinos’ assertiveness and desires to seize careers in government work that established a fertile ground for Americans to plant the seeds of U.S. forestry.

With the ranger-training program showing good results, Ahern stepped up the bureau’s propaganda campaigns to order to attract more students. In 1908, he penned a circular titled *A Few Pertinent Facts Concerning the Philippine Forests and Needs of the Forest that Should Interest Every Filipino* in order to publicize the bureau’s search for personnel. Claiming to need “66 men of the upper grades and not less than 500 men of the lower grades,” he implored both highly educated and those that had received less formal schooling to join the bureau. The division of “upper” and “lower” grades shows

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<sup>96</sup> *Forestry Golden Book*, 49.

<sup>97</sup> *Report* (1909), 10-11.

that room opened up not only for the best educated or most well-connected of Filipino society, but also for those of lower-middle class status who hoped to use government forestry to move up in Philippine society. As forestry advocates had in the United States, Ahern deployed nationalist rhetoric and civic duty as the primary message meant to attract recruits. “The education of the youth of the Philippine Islands and the material advancement of the people under a stable, democratic, and representative form of government, are to-day the ideals of every thoughtful Filipino,” Ahern exhorted. Using repeated appeals to national sentiments, Ahern argued that by receiving forestry training, each Filipino forestry trainee would be “helping his own people.” Ahern’s *Few Pertinent Facts* sought to combine nationalism with new opportunities to advance in respectable careers under the Americans.

Just as in the United States, U.S. forestry advocates began with a nationalist call for state forestry, wise use, public support, and trained men to oversee the forests. Reiterating the message that Americans were there to empower Filipinos, Ahern promised that “Filipino scientific experts” would “prevent useless destruction” and “exploit their own forest resources.”<sup>98</sup> And, just as in the United States, forestry leaders linked the morality within forestry to the nation through selflessness, disinterest in profiting from public office, and the ability to work in the woods, far from home, or under strenuous conditions. For many Filipinos who had been brought up in a Catholic tradition, the martyrdom narrative was familiar, and the new forestry employees stepped into the self-sacrificial Christ-like role.<sup>99</sup> The idea of self-sacrifice of the forestry

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<sup>98</sup> Ahern, *A Few Pertinent Facts*..., 14.

<sup>99</sup> Ileto, *Pasyon and Revolution*, 14-15.

employee helped Ahern and the Americans appeal to Filipinos' sense of dedication and fraternity that had bolstered nationalist sentiments.

For Ahern, Filipino staff members were specially situated to carry the Bureau's message of the public good to the people of the Philippines. According to Ahern, "Forestry, although practiced in the Philippines since 1863, has never been well understood by the Filipinos. They realized neither the value of the forests nor the benefit which might be derived from them if properly managed."<sup>100</sup> Ahern's Filipino staff was responsible for echoing the bureau's message in the hinterland, and in 1909, Janeiro Lagdameo "was detailed to give a course of illustrated lectures" to the people of the Philippines. Lagdameo had been an early a Filipino student chosen to attend forestry school in the United States. In 1905, he became the first Filipino to graduate from Yale's program. Though records containing Lagdameo's name are scarce, Ahern's *Annual Report* of 1909 appears to show that Lagdameo received special notice for his propagandist efforts. Lagdameo and other officers conducted sixty-one lectures on the importance of conservation. Ahern claimed that the lectures reached as many as 50,000 Filipino/as.<sup>101</sup> While traveling through various provinces delivering their messages, Lagdameo and the others also recruited young boys into the service with enticements of

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<sup>100</sup> *Report* (1909), 11.

<sup>101</sup> *Ibid.* As with much of the research herein, connecting a single Filipino/a's work to his or her name is extremely difficult. Not until much later did the Bureau of Forestry begin including Filipino names in its reports, and Lagdameo's does not appear in the official reports. However, in 1909 Ahern identified "A Filipino forest officer, a graduate of the Yale Forest School[...]" as a chief propagandist. A cross-reference with the *Biographical record of the graduates and former students of the Yale Forest School; with introductory papers on Yale in the forestry movement and the history of the Yale Forest School* (Yale, 1913) showed Lagdameo to be the only graduate to have completed his degree and returned to work in the Philippine Bureau of Forestry by 1909, the date of the Ahern's *Report*, (98). Yet, because the *Forestry Golden Book* states that Lagdameo "did not practice his profession when he returned to the Philippines but instead engaged in other lines of business," (178), it appears likely that Lagdameo returned to work for a timber company and also served Ahern as a propagandist.

tangibles such as pay and uniforms and intangibles such as duty and professional status.<sup>102</sup> In addition to deploying Filipino staff for propaganda work, Ahern also issued as many as forty newspaper articles and circulars that were “printed in English, Spanish, Tagalog, Visayan, Bicol, and other languages.”<sup>103</sup> Whether or not we accept Ahern’s proud assertion as fact that “The result of this propaganda has created widespread interest,” the bureau’s Filipino staff grew steadily over the second decade of the bureau’s existence.

In 1909, the bureau took one step closer to realizing a permanent forestry school when the Agricultural School within the University of the Philippines offered a program in forest science. Claiming that the bureau “has for some time recognized that the Filipinos must be the backbone of the forest service,” Ahern was proud to declare that the program would “educate the Filipino in all things forestry.”<sup>104</sup> It consisted of two years of general agricultural instruction followed by two years of forestry training (Figure 5.2). Graduates of this program could become head rangers in charge of other rangers in the field. Exceptional students could also apply to U.S. forestry academies. Upon graduation they “would be eligible to any position in the upper grades of the service,” which meant the position of forester.<sup>105</sup> As the Americans solidified a forestry curriculum for the islands, the courses that they offered showed a clear preference for teaching Filipinos

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<sup>102</sup> Tamesis in *Forestry Golden Book*, 190.

<sup>103</sup> *Report* (1909), 11.

<sup>104</sup> *Ibid.*

<sup>105</sup> *Ibid.*

Junior year.		Vacation.	Senior year.
<b>Physiography and soils.</b>	<b>Physiography and climatology of the Philippines.</b>	<b>Lumbering.</b>	<b>Wood technology.</b>
<b>Geometry. -</b>	<b>Trigonometry and surveying.</b>	<b>Forest mensuration.</b>	<b>Surveying; forest engineering.</b>
<b>Forest botany.</b>	<b>Silvics.</b>	<b>Horses, camps, and packing.</b>	<b>Silviculture.</b>
<b>Mapping; forest entomology.</b>	<b>Law and procedure.</b>		<b>Forest economy.</b>

Figure 5.2 This course list demonstrates that forestry was made of a diverse setoff skills from law to lumbering to botany. The colonial reality of many of these courses was that the Americans who taught them were learning the materials at the same time that they represented their knowledge as expertise.

how to exploit the forests. On the one hand, as Figure 5.1 suggests, the new curriculum was focused on utilization and the new Filipino forestry students learned both the theory and the practice of making a forest productive. On the other hand, although the early courses included “silvics” and “silviculture,” and even though Ahern claimed that the students would learn how to market “the mature stands in such a manner as to insure the return of the tree crop most desired,” American foresters who taught in the Philippines knew very little of the forest ecologies to teach the students.<sup>106</sup>

The establishment of a forestry curriculum in the Agricultural School paved the ways for the bureau to open a formal forestry school at Los Banos, Laguna Province, southwest of Manila, on June 13, 1910. The school welcomed “24 pupils” from Luzon, Negros, and Cebu. Nineteen of the twenty-four students were “*pensionados*,” – students who received government funds. Three students traveled from China and received support from the Chinese Chamber of Commerce in Manila. One was a private student.

<sup>106</sup> Ahern, *A Few Pertinent Facts...*, 20.



The pensionados' scholarships bound them to work for the bureau for at least two years after graduation and Ahern confidently assumed that the bureau's labor needs would "be supplied by this school."<sup>107</sup> In 1912, the school had sixty-six Filipino students on its rolls, and graduated the first class, which included Tamesis. Felix Franco, another of the 1912 class, spent his life in the bureau. After traveling to the United States and receiving a Master's of Forestry degree at Cornell in 1922, he became the Chief of the Division of Forest Management and served the bureau for thirty-eight years.<sup>108</sup>

The early classes of Filipino forestry students set an important tone for subsequent classes by fostering the esprit de corps that they carried into the bureau. According to Tamesis, the American foresters who came to the Philippines to teach at the School of Forestry "indoctrinated" the students in the fraternity that was integral to American forestry.<sup>109</sup> During the school's early years, the forestry students remained within the College of Agriculture. They formed a "forestry club" that was a "potent social and literary club," performed in vocal and music groups, and competed in the college's track meets, tennis matches, and baseball games (Figure 5.3).<sup>110</sup> Sports teams and other social groups were important to the making of masculinity and school spirit in the U.S. academies, and U.S. foresters and instructors brought these male-dominated activities to the school. Ahern claimed, "No group of students in the University of The Philippines

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<sup>107</sup> *Report* (1910), 15. *Pensionados* were any students who received government funds to attend schools. Some went to school in the United States and others in the Philippines.

<sup>108</sup> *Forestry Golden Book*, 48-49; *Forestry Golden Book Supplement*, 17.

<sup>109</sup> Tamesis, "On Looking Back," *Forestry Golden Book*, 190.

<sup>110</sup> *Forestry Golden Book*, 178.

has developed the college spirit to such a degree as those in the Forest School.”<sup>111</sup> As Pinchot and Graves had done, the Americans in the Philippines attributed school spirit to



Figure 5.3 “Class ’13 has no picture extant but here is that famous team of Classes ’13 & ’14.”<sup>112</sup> Sports teams and other fraternal societies were essential to establishing proper masculine traits and relationships among colonial subjects.

the unique experiences of working in the woods. Because of their time spent in the woods, the students created “their own amusements.” Ahern wrote that “their almost daily trips in the forest make them physically better and stronger than the average Filipino student.”<sup>113</sup> As Ahern gushed with paternal pride, he also revealed how forestry in the Philippines remained committed not only to producing specialized types of public servants and environmental managers, but also to producing an American-styled

<sup>111</sup> *Report* (1912), 25.

<sup>112</sup> *Forestry Golden Book*, 50.

<sup>113</sup> *Ibid.*

masculinity that emphasized hard physical work, collective pride, and academic study.

An alumnus of the 1917 class stated in 1950

“In this school, we learned the broad science of how to hope for the best and expect the worst. We learned to be self-reliant. With all these rigors to toughen one’s muscle and spirit, how could one submit to defeat anywhere? We walked out of the portals of this school, men with confidence[...].”<sup>114</sup>

In 1913, the bureau attempted to foster esprit de corps beyond the Forestry School by publishing a quarterly newsletter. Although the newsletter was intended for a wide audience including students, rangers, and lumber companies, it was unlike the official *Reports* because it contained personal information of personnel. The bureau distributed the newsletters throughout the provincial offices. The newsletter kept employees, who were spread across the archipelago, in touch with one another. Its stated aim was to share experiences, and to “unite all of us in our exceptional opportunity for building up the Bureau of Forestry.”<sup>115</sup> The newsletters reported new Bureau policies and recent achievements. They also announced personal information such as marriages, births, deaths, vacations, accidents, transfers and retirements. The Manila office encouraged employees to submit thoughts, essays, poems, and observations about their service, work, and the forests. The newsletters tied the bureau’s growing number of employees together through rhetoric reflecting American forestry’s ongoing effort to promote esprit de corps in light of the many challenges faced by the Bureau. Asking every Bureau employee to “put his heartiest efforts into his work and cooperate with other officers to the best

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<sup>114</sup> Nicanor E. Santos, *Forestry Golden Book: Supplement*, 49.

<sup>115</sup> Bureau of Forestry, “Quarterly Newsletter, July 1, 1913,” 1, Forest History Society, Newspaper Clipping File, Box 28, Folder, “Philippines Forests and Forestry.”

advantage of the Bureau,” the newsletter helped to foster the kind of spirit that was present in the college sports teams and fraternal societies.

At about the same time, U.S. colonial administrators began to direct colonial policies toward greater Filipino/a inclusion in administration, a process known and “Filipinization.” After 1909, a debate emerged within colonial politics between nationalists, led by Sergio Osmena and Manuel Quezon, and the U.S. colonial regime over Philippine independence and Filipino/as’ roles within the government. Within the Philippine Assembly, the elected body of Filipinos that had acted as the lower legislative house since 1907, the Nationalista Party pressed for independence and increasingly opposed the Philippine Commission, the American-dominated upper legislative body.<sup>116</sup> And in 1913, Woodrow Wilson’s victory in the 1912 U.S. Presidential race led to the appointment of a new Democratic Governor-General of the Philippines, Francis Burton Harrison. Harrison supported both the Philippine nationalists and a timeline for Philippine independence. He also called for Filipinization – a greater Filipino inclusion at all levels of government. Filipinization within the Bureau of Forestry had been a fact since the Bureau’s establishment, even if not by Americans’ design. That is, the organization had always depended upon Filipino/a inclusion and labor. But with Filipinization after 1912, the bureau had even more motivation to include, train, educate, and foster Filipinos as forestry specialists.<sup>117</sup> By 1914 ninety-five percent of the Forestry staff was Filipino. And, in 1918, when the bureau published its first staff directory, only

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<sup>116</sup> May, *Social Engineering in the Philippines*, 70-73.

<sup>117</sup> For more on Filipinization see Abinales and Amoroso, *State and Society in the Philippines*, 139-140; Anderson, *Colonial Pathologies*, 187-188; Kramer, *The Blood of Government*, 363-369.

ten of the bureau's 218 members were American.<sup>118</sup> Although Americans retained the top positions, Filipinos with U.S. training shaped the Forestry Service at the local level and on a greater scale than ever before.

Furthermore, more Filipinos entered the Philippine Bureau of Forestry with advanced training, especially from U.S. universities. Filipino *pensionados* had begun traveling to the United States for forestry schooling as early as 1905. By the time that the Forestry School was graduating classes and experiencing the initial effects of Filipinization, more Filipino graduates were returning home. Filipinization meant that Filipinos filled roles previously were open only to Americans.

Americans retained the belief that Filipinos had yet to achieve the capacity to educate other Filipinos in American-styled governance, morality, and social roles. Americans protected no positions as stridently as they did the positions of forester, chiefs of each division within the bureau, and the school's instructors. But as Filipinos returned home with forestry degrees in hand, their evidence of a *bona fide* U.S. education made them candidates for the top jobs. Among the earliest returnees was Mauricio J. Oteyza, who graduated from Yale School of Forestry in 1910. Upon his return, he began teaching at the School of Forestry. According to the *Forestry Golden Book*, Oteyza instructed Filipino students in silviculture, and later Filipino Forestry staff named Oteyza the "Filipino father" of forestry.<sup>119</sup> As such new Filipino educators, foresters, and

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<sup>118</sup> *Report* (1918), 85-91. This conclusion was reached by counting what appear as Anglo and Hispanic names. There is, of course, room for error here. However, the ethnic backgrounds of the names stand out distinctly from one another, and while such a method does not preclude the possibility of an American with a Hispanic name or a Filipino with an Anglo name, certainly no more than one or two could fall into such a margin of error. Therefore, the point remains the same – by 1918 Filipinization was moving quickly.

<sup>119</sup> Carlos Sulit, "The Forestry Pioneers," in *Forestry Golden Book*, 178.

administrators moved up in the bureau's hierarchy, they brought experiences from the U.S. forestry academies and demonstrated Filipinos' capacity for relevant formal training and education.

## Conclusion

U.S. forestry fostered a specific type of esprit de corps based upon martial cohesion, morality, technical competence, and national service. Pinchot, Graves, and the students that they trained at Yale articulated a message that Americans and Filipino/as made essential to forestry service. The message of self-sacrifice, courage, and intrepidity appealed to some American and Filipino men. In the United States, manliness, outdoor work, and opportunities to development new fields and talents attracted recruits. As U.S. forester Riley Smith remembered, it was being taught to "understand outdoor life and be willing to exert one's self and undergo discomforts to realize its pleasures" that drew him to the U.S. Forest Service in 1899.<sup>120</sup> In the Philippines, forestry's message promised an arena for professional advancement, outdoor work, and a claim on national heroism. At the Golden Jubilee celebrating the Bureau in 1950, the veteran Filipino politician Marcelo Adduru reminded attendees,

"The rangers and foresters, imbued with the spirit of service, love of country, and loyalty to the cause of posterity, forge ahead uncomplainingly, surmounting hardships and difficulties and undergoing sacrifices for the cause of forest conservation and wise utilization. Indeed, they are the unsung heroes, the true servants of the people."<sup>121</sup>

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<sup>120</sup> Riley Smith, *The Personal Narrative of Riley Smith* (USFS: GPO, 1939), 1.

<sup>121</sup> Hon. Marcelo Adduru, *Forestry Golden Book*, 14.

This sense of heroism gave forestry employees the confidence and faith to carry out their mission. Even in the face of failures and disappointments, such a notion confirmed that the forestry officers were doing good work.

U.S. forestry, both at home and abroad, was a set socio-cultural reforms as much as environmental ones. Civil service reform, evolving notions of masculinity, professionalism, and faith in science and technology informed U.S. forestry education and training. These specific elements supported esprit de corps among American and Filipino forestry officials. In the colonial context of the Philippines, Filipinos who took up forestry found their own meanings in self-sacrifice, technical competence, politics, social status, manliness, and national pride. The Philippine Bureau of Forestry fostered a deep sense of nationhood that was as closely tied to the bureau's existence as it was to the existence of the forests. As the beginning of this chapter suggests, the bureau's coherence and its officers' determination generated a self-sustaining success story. Regardless of failures, and often in spite of them, the bureau's persistence supported the optimism and faith that they acted in the best interests of the people.

When Filipino/as gathered in 1950 to celebrate Philippine forestry and commemorate its members, they looked forward as much as they looked back. In the midst of celebration and aggrandizement, some officials used the opportunity to sound an alarm. Most remembered American foresters, instructors, botanists, and administrators in a favorable light. The history of colonialism had provided them with an important role in the life of their nation. Forestry in particular had given them claims to proper governance,

middle-class masculinity, and a heroic status. As colonial subjects, U.S. forestry had imbued the Filipino officials' lives with meaning and status. But as national technocrats, they also had to look forward. Those Filipino officials who cautioned of a timber famine did more than toll out a warning. They indicated that Philippine forestry needed to break away from its American past. They had to depend on Filipinos in the future to solve the problems wrought by histories of colonialism and the capitalist modes of production that they had come to know simply as "utilization." The success that they celebrated in 1950 was defined by the faith and optimism that was an essential part of U.S. forestry. But the critics of the Bureau's policies knew that with nationhood came the responsibility to craft homegrown solutions developed by Filipino/as.



### Conclusion: Measures of Prosperity

In 1928, more than a decade after Ahern had retired from the Philippine Bureau of Forestry, he was once again called on to promote the success and excellence of U.S. forestry in the Philippines. At Gifford Pinchot's request, Ahern wrote a short book titled *Deforested America* that criticized the ongoing forest loss in the United States.<sup>1</sup> Writing the book's foreword, Pinchot claimed that in the Philippines Ahern had "provided for a perpetual succession of crops under Government control."<sup>2</sup> In comparison to this forestry success story, Pinchot asserted that in the United States, "the lumber industry is spending millions of dollars in the effort to forestall or delay the public control of lumbering, which is the only measure capable of putting an end to forest devastation in America."<sup>3</sup> Even three decades after U.S. colonial forestry had begun, Pinchot still relied on the Philippines to argue for strengthening federal forest management at home. However, the reality in both the United States and the Philippines was that forestry officials worried about the difficult nature of forest reproduction and were forced to defend their principles in the face of economic downturns. The history of colonial forestry remained a source of pride in both the colony and the metropole, but in both places forests retreated and forest-based economies lacked stability.

The Progressives had succeeded in institutionalizing federal forest management, but their influence faded with the end of World War I and the Republican push for

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<sup>1</sup> Gifford Pinchot in George P. Ahern, *Deforested America* (Washington DC, 1928).

<sup>2</sup> Ibid., 6.

<sup>3</sup> Ibid., 7.

“normalcy” during the 1920s.<sup>4</sup> Progressive forestry advocates claimed some victories: the National Forest system expanded, U.S. forestry experts became internationally known and recruited, and private landholders sought out foresters’ help to pursue efficient logging methods. In addition, federal forestry spread onto Indian reservations in 1910 with the opening of the Bureau of Indian Affairs’ Branch of Forestry. As with forestry in the Philippines, government forestry on Indian reservations served the American civilizing mission and forestry advocates’ agenda to promote state power in places without representative democracy. Nevertheless, state forestry, as Pinchot had defined it, was no longer powered by Progressivism.

After 1920, U.S. forestry was changing to reflect shifts in U.S. politics and to address economic fluctuations – what the timber and lumber industries called “emergencies.” The end of World War 1 in 1919 brought a severe drop in timber and lumber prices. Federal forestry officials responded by lifting some regulations and offering assistance to industry. When Henry Graves retired as the Chief of the U.S. Forest Service in 1920, William B. Greely took over and helped institute cooperative, power-sharing agreements between federal and state agencies, private landholders, and the forest products industries. These agreements resulted in the Clark-McNary Act of 1924. When Congressional committees heard testimony in the 1920s on proposals for new forest regulations, instead of listening to Pinchot’s assertions that federal foresters protected the public good, instead they heard Greely and the National Lumber Manufacturers Association claim that increasing production would allow the industry to respond to price fluctuations and stabilize the lumber economy. They argued this would serve everybody’s

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<sup>4</sup> Thomas R. Cox and others, *This Well-Wooded Land: Americans and Their Forests from Colonial Times to the Present* (Lincoln, NE: University of Nebraska Press, 1985), 205-207.

best interests. After 1929, the crisis of the Great Depression also gave the industries a reason to demand greater allowances, access, and privileges from the federal government. As this work has shown, U.S. forestry had always been interested in aiding industry capitalists, but economic hardships had helped redefine state-capital cooperation.<sup>5</sup>

In the Philippines during the 1920s and 1930s, the Bureau of Forestry's ability to protect the forests for future supply degraded at a greater rate as both legal and illegal logging as well as clearings for agriculture increased. The major difference between the Philippines and the United States remained the absence of private forests in the islands. That the Bureau of Forestry controlled 97% of the islands' forests had been a point of pride for U.S. forestry officials. This fact, they had hoped, would allow the federal foresters to show what they could do without interference by private landholders and Congress. But by the 1930s, many who observed the changes to Philippine forests and the growth of the logging industry in the islands realized that government administration had not resulted in the actual command and control of the forests. Because the Bureau of Forestry's mission was to introduce capital investments into the forests, and because of the government's vast landholdings, virtually all of the forests in the Philippine were opened for exploitation. For the Progressives, opening all the forests for resource extraction (aside from experimental forests and game reserves) was proper, *if* managed by expert foresters. However, much of the expertise was not developed and administration was chronically underfunded. Moreover, the bureau's attempts to instigate capitalist development had led to far-reaching decisions. For example, one of the most consequential policy changes took place in 1905 when the American-led bureau

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<sup>5</sup> William G. Robbins, *American Forestry: A History of National, State, and Private Cooperation* (Lincoln, NE: University of Nebraska Press, 1985), 93. See also

abandoned selective logging and allowed clearcutting.<sup>6</sup> Through crucial contingent moments such as this, one part of the forestry agenda – capitalist development – took hold in Philippine forests while expert management and state control lagged. Forestry professionals surveyed the Philippine forests during the 1930s and saw the conditions emerging that would bring about a forest catastrophe.<sup>7</sup>

Even after the considerable Progressive accomplishments, forests in the United States and in the Philippines were being cut faster than they were being replaced. According to forestry historian Thomas R. Cox, by 1920, for every four U.S. trees that were cut down only one was replaced.<sup>8</sup> And, David Kummer's study of Philippine deforestation records that between 1900 and 1930 Philippine forest cover declined from 70% to 60%.<sup>9</sup> Greater losses would come later. After World War 2, the Philippine people relied heavily on their forests to rebuild their nation and economy. In addition, the destruction of much of Japan's infrastructure also established a ready consumer of Philippine construction wood. By 1987, the Philippine forest cover had been reduced to 22% of the total land area. If the Progressives did not succeed at instituting sustained yield forestry in either the colony or at home, and if their influence waned, then what were their contributions to resource use and state formation?

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<sup>6</sup> See Chapter 4, 241-242.

<sup>7</sup> Faustino Albano Guerrero, "Selective Logging in the Pacific States and its Application to the Forests of the Philippine Islands," (M.F. thesis, University of Washington, 1931), 184-186; *The Manila Daily Bulletin* (October 31, 1930).

<sup>8</sup> Cox, and others., *This Well-Wooded Land*, 206.

<sup>9</sup> David M. Kummer, *Deforestation in the Postwar Philippines* (Chicago: University of Chicago Press, 1991), 45.

This work has shown how the Progressives facilitated an expansion of the influence of capitalist modes of production as well as the empowerment of new state offices to address environmental change and resource use. That the Progressive forestry policymakers in the United States and in the Philippines aided the expansion of capitalism is not ironic; it is what they intended. However, much that they also intended failed to occur such as the development of expert knowledge that would translate into efficient forest management. In addition, ecological knowledge was more difficult to accumulate than forest commodities were to identify, especially in the Philippines where staff shortages and rough terrain stymied the bureau's efforts to manage forest reproduction. However, the more consequential factor in both environmental and social change was the attempt to implement capitalist means of production indiscriminately across distinct local places. U.S. forestry officials were willing to accept that forest ecologies behaved differently across time and space, but they had been less able to perceive the same about capitalist development.

Not only did Philippine environments respond in unexpected ways to the imposition of industrial capitalism, but also Philippine peoples responded with agendas that could not be captured or controlled by U.S. administrators. U.S. forestry in the Philippines is an example of a set of American ideas and practices transferred to a colonial setting. The U.S. colonial administration attempted to impart the highest ideals of modern, scientific management to the Philippines. However, these ideals had precipitated out of experiences, traditions, and beliefs from other places and times. Returning to Theodore Roosevelt's quote that opened this work: "You can start a prosperous home by destroying the forest, but you cannot keep it prosperous that way,"

we know that Roosevelt and other conservationists had come this stance by witnessing local environmental change, by hearing stories of their nation's peril, and by paying higher prices for forest products. That is, they had experienced the benefits of industrial capitalism, which they credited for making the nation great, only later to experience its detriments as well. Filipino/as who lived under American rule beginning in 1898 did not have these experiences to draw from. Those who took advantage of the new economic and professional opportunities brought by American colonial power placed hope in the American promise for a better, more prosperous home. Conservation, it turned out, had different meanings in a colonial setting. In the United States, conservation emerged from debates over forest use, the dangers of unregulated industrial capital, and the role that forests played in the identity and health of Americans. Conservation groups, such as the Sierra Club, maintained agendas and lexicons of protest against deforestation. Indeed, the U.S. Forest Service became one of their main antagonists during the twentieth century. The Philippines had no legacies of environmental debate to draw on. Such a set of ideas was embedded with the Bureau of Forestry along with the practices that sought to make forests a cornerstone of the Philippine economy and nation. Whereas conservation in the United States came about after the deleterious effects of capitalist exploitation, in the Philippines conservation helped advance those effects.

U.S. forestry in the Philippines also opens up a new look at how American conservationists came to define and regard the public. The Progressives attempted to reform how capitalist development unfolded in order to establish practices that would benefit the public good. For Progressives, the public generally included those individuals who conformed to a capitalist system as well as broader U.S. social norms. In colonial

settings, social hierarchies were also hardened along race and gender lines. In the colonial context of the Philippines, the relationships that Americans' perceived between the peoples of the Philippines and their resources helped colonial administrators create new publics. For example, American policymakers imagined that Philippine peoples would occupy distinct roles in the colony as well as in the new forest management schemes. These roles originated from Americans' beliefs about race, gender, and the "capacity" to participate in a capitalist economy through specific types of resource use. The male-gendered world of forestry also linked certain Filipinos to professionalism and the success of the nation. Those that Americans designated as "non-Christians," such as Igorots and Negritos, were believed to be unable to accumulate capital and enter the marketplace as rational participants. The presumed incapacity for capital accumulation or wage labor helped racialize some peoples in the Philippines as unfit for full citizenship. Only those forest users who conformed to the expansion of capitalism and ended non-capitalist uses of the forest could be included as full citizens. Increasingly, the public that the Philippine Bureau of Forestry sought to defend and serve was composed of logging and lumber companies, those who worked for them, and consumers of forest products.

Seeking out the conservationists' definitions of the public in the Philippines can add to explorations of the public in the United States. The scholarship on American conservation tends to regard the Progressive period as a moment when state capacities increased and new conversations addressed public and private ownership of lands. The subject of National Parks has produced works that explore how Native Peoples have been evicted from their homes to make room for other Americans' enjoyment of nature. These works emphasize that American policymakers privileged some types of use over others

while not exploring capitalist modes of production directly.<sup>10</sup> Indeed, the creation of Parks also emerged from a capitalist model of commodifying nature and selling to certain Americans whose position as consumers privileged them above others who engaged nature through older use systems. A growing body of work has looked at how forestry policy shaped local communities and, to a lesser degree, the relations between those communities and the state-capital cooperative.<sup>11</sup> In the United States, studies of forest policy have often been framed in terms of local-national struggles instead of being set within the expansion and strengthening of capitalism. The Philippines offers an important case for American scholars because the forestry authorities were open and dedicated to including capitalist modes of production as part of the American civilizing mission. Forestry experts worked not simply to understand forests or forest-dwellers, but more specifically to integrate them into a capitalist economy.

This work also adds to the literature on U.S. imperialism by exploring the best early example of expertise and environmental management as an American colonial imperative.<sup>12</sup> European and American colonizers developed ideas about those they

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<sup>10</sup> Mark David Spence, *Dispossessing the Wilderness: Indian Removal and the Making of the National Parks* (Oxford: Oxford University Press, 1999) and Karl Jacoby, *Crimes Against Nature: Squatters, Poachers, Thieves, and the Hidden History of American Conservation* (Berkeley: University of California Press, 2003).

<sup>11</sup> Jake Kosek, *Understories: The Political Life of Forests in Northern New Mexico* (Durham, NC: Duke University Press, 2006); William P. Jones, *The Tribe of Black Ulysses: African American Lumber workers in the Jim Crow South* (Urbana, IL: University of Illinois Press, 2005); Lawrence M. Lipin, *Workers and the Wild: Conservation, Consumerism, and Labor in Oregon, 1910-1930* (Urbana, IL: University of Illinois Press, 2007); Brian C. Hosmer, *American Indians in the Marketplace: Persistence and Innovation Among the Menominees and Metlakatlans, 1870-1920* (Lawrence, KS: University Press of Kansas, 1999); Nancy Langston, *Forest Dreams, Forest Nightmares: The Paradox of Old Growth in the Inland West* (Seattle: University of Washington Press, 1995); Anna Tsing, "Contingent Commodities: Mobilizing Labor in and Beyond Southeast Asian Forests," in Joseph Nevins and Nancy Lee Peluso, eds., *Taking Southeast Asia to Market* (Ithaca, NY: Cornell University Press, 2008), 27-42.

<sup>12</sup> J.R. McNeill makes a similar point in Alfred W. McCoy and Francisco A. Scarano, eds., *Colonial Crucible: Empire in the Making of the Modern American State* (Madison, WI: University of Wisconsin Press, 2009), 475-476.



choose to colonize based upon observations of resource use and economy. Since the Enlightenment, Europeans and later Americans understood science and technology as markers of liberation from the chaos of nature and the drudgery of work. Science and technology, they believed would allow them to master nature and reform society. Native Americans' use of their environment impressed Europeans but ultimately failed to live up to the standard of European civilization thereby justifying the interruption of Indians' ways of life. Americans carried on this tradition of deriving prejudices based upon resource use first among Native Americans and later among peoples overseas. In addition, advancements in science and technology allowed Americans to believe that they were on the cutting edge of the most modern understanding of the natural world. Americans' increasing explorations of the tropics brought home both commodities and rationales for intervening in distant lands. American tropical forestry experts, some of whom got their start in the Philippine Bureau of Forestry, helped the state claim tropical forest expertise as its domain. Part of what this work has shown is that it was at the edge of empire where expertise in science and technology was often at its most dynamic and experimental.

Furthermore, imperial environmental management is necessary to understand how colonial societies and new national governments emerged. As Timothy Mitchell wrote about oil and the emergence of contemporary economies, "The deployment of expertise requires, and encourages, the making of socio-technical worlds that it can master."<sup>13</sup> In some ways this describes U.S. colonial environmental management: it demonstrated its commitment to commodity production, opened universities to train future experts, and

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<sup>13</sup> Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil* (London: Verso, 2011), 124.

reinforced and refined male-dominated social structures. Yet, this work has also shown that the colonized remade expertise to fit different ideas about society and environments. If what emerged in the Philippines is a type of “environmental management state,” to use historian Paul Sutter’s phrase, then that “state” was dynamic and contentious as environments responded to management schemes in unexpected ways and diverse parties introduced competing agendas. To rework Mitchell’s phrase then, through the deployment of expertise, environmental managers’ ideas about socio-technical worlds that they would like to master are revealed. But, the houses often look very little like the blueprints because societies and environments are never fully mastered.

The natural functions of the Philippine forests have demonstrated a deep aversion to capitalist development and state management. As Nancy Langston pointed out, scientific foresters maintained the conviction that any environments could be engineered to be productive. What the Philippine forests have shown over the twentieth century is that they have not responded to the logics of capitalist development and scientific forestry. Certainly, investments during the twentieth century were productive for some people – namely American, British, Japanese, Chinese, and some Filipino capitalists. The destruction of the forests was profitable for a few though it has not benefitted the nation nor most of the people in the Philippines. It may be that some environments do not respond to capitalist development in the ways that scientific forestry has imagined. Only in the late twentieth century, after the massive forest loss of the 1970s and 1980s, has the Philippines experimented with new forms of forest management, such as community-based forest management. It is too early to know how community-based forest management will aid those at the mercy of fragile hillsides, polluted waterways, and

disappearing forest resources. But, its proponents hope that the era of nation-centered forestry that allowed powerful capitalists, many from outside the Philippines, to denude vast areas of forest and endanger the environments that villagers depend upon, is over.

During the twentieth century, Filipino forestry staff recognized that they had made, and continued to make, missteps in managing the forests for posterity. Acknowledging their “wont to hide our failures and to dislike reference to them,” some Filipino foresters in 1950 called attention to the ongoing problems of reforestation.<sup>14</sup> In addition to the numerous critics who voiced concern about the pace of utilization, Director Florencio Tamesis organized a conference in 1950 to further explore reforestation efforts. The reports of three reforestation studies published in the *Forestry Golden Book* demonstrate that even after fifty years of investigative work, the bureau still struggled to understand under which conditions its most valuable species (Benguet pine, molave, and narra) would reproduce.<sup>15</sup> That lack of information stood in stark contrast to distressing facts of deforestation that the bureau officials knew too well. By 1950, the bureau estimated that almost 5.3 million hectares of land needed to be planted to forests in order to make up for current annual losses. And, in 1953, one joint U.S.-Philippine survey stated that about 20% of the bureau’s revenue from fees and around 35% of its appropriation went to reforestation programs, but the forests still retreated.<sup>16</sup> Furthermore, logging and lumber companies continued to waste between 60% and 80% of trees’ wood during processing.<sup>17</sup> Clearly the bureau was not protecting the forests in

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<sup>14</sup> Tamesis quoted in *Forestry Golden Book Supplement*, 12.

<sup>15</sup> *Forestry Golden Book Supplement*, 60-62.

<sup>16</sup> Winslow L. Gooch, *Forest Industries of the Philippines* (Manila: BOP, 1953), 134.

<sup>17</sup> *Forestry Golden Book*, 182.

the ways that it would like, even as it championed its legacies and maintained its identity as the protector of the forests. During the first half of the twentieth century, the bureau supported large-scale capitalist investments and continued to believe in the virtue of their profession. The forestry officials held politicians and rural people responsible for deforestation and the lack of reforestation efforts. But it was neither the public nor the politicians who claimed to be able to simultaneously exploit and protect the forests – only the Bureau of Forestry did that.

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