Seeing the Forest from the Trees:
Scientific Forestry and the Rise of Modern Chinese Environmentalism, 1864 - 1937

By

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Abstract

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This dissertation narrates the rise of Chinese scientific forestry during the late nineteenth and early twentieth centuries. Focusing primarily on central officials in Beijing and local officials in Jilin Province, it argues that forestry served as the lens through which Chinese officials first engaged with the ecological, cultural, and economic dimensions of international environmentalism. This meant that they saw forest cover as indicative of the quality of a nation’s culture, as well as the health of its land and economy. For the first time, Chinese officials sought to manage timber as a national resource. In so doing, they revealed the importance of environmental perceptions and realities to shaping global modernity.

China gained international notoriety for its deforested landscapes around the turn of the twentieth century. The Taiping Rebellion and other wars of the nineteenth century had resulted in a dramatic loss in China’s forest cover. Nevertheless, foreign observers and Chinese literati uniformly blamed China’s deforestation on its inferior culture. Under the leadership of Yuan Shikai and the Ministry of Agriculture and Commerce, Republican officials sought to solve the forest problem with the help of American-trained foresters such as Ling Daoyang and Han An. This meant that central officials became newly responsible for managing the entire nation’s timber resources. Forestry’s proponents argued this would salvage China’s international reputation. Just as importantly, they argued that efficient forest management would foster the nation’s ecological health and economic self-sufficiency. In other words, they developed a style of Chinese environmental nationalism tied to forestry.

The Ministry of Agriculture and Commerce imported the American tradition of Arbor Day in order to transmit this new ideology to the Chinese public. Henceforth, all local and provincial governments throughout the Chinese nation would conduct reforestation projects as part of the Arbor Day celebration. This was to be done regardless of the suitability of local climates, soils, and social conditions to planting trees. For some officials, reforestation necessitated a struggle to tame the land to support trees. For
others, it meant guarding trees against banditry, warfare, animals, or even small children. For some, reforestation meant reinvigorating traditionally forested areas, such as sacred mountains, temples, and riverbeds. For others, it meant establishing economic tree farms and modern parks. Those who succeeded in growing and maintaining China’s forest cover displayed a commitment to creating a China that was as ecologically modern as they imagined the landscapes throughout the world to be. Forestry thus served as the lens through which Chinese officials from Beijing to rural Jilin engaged with the cultural and economic dimensions of global environmentalism.
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Introduction:

On May 21, 2017, a Chinese student named Yang Shuping gave a speech at the University of Maryland’s commencement ceremony. Dressed in her cap and gown, she spoke of her time as a college student with fondness, praising the United States for providing such a wonderful environment in which to receive higher education. She recalled the moment she first stepped off the airplane in the United States with particular clarity: “The moment I inhaled and exhaled outside the airport I felt free.” The clean American air she breathed served as a symbol for freedom in Yang’s mind, something which starkly contrasted with the physical and political environment in her native country of China. In the remainder of her speech, she made this comparison more explicit, highlighting the freedom Americans had to breathe and speak unencumbered. The American environment – and, just as importantly, the culture of free speech that produced it – was something to China should strive toward.

Chinese netizens were quick to condemn Yang Shuping’s account of China’s environmental and political backwardness. Yang hailed from the city of Kunming, the patriots declared, which had some of China’s cleanest air. How could she have possibly felt oppressed? The condemnation of Yang Shuping by patriotic Chinese youth was so vehement that the BBC declared her critics the “21st Century successors to the Red Guards” of the Cultural Revolution. Though the forum for their attacks was online rather than in person, Carrie Gracie argues that they serve the same political function, namely to repress the speech of those whose views depart from those of the leader. Fresh air, in both Yang Shuping and Carrie Gracie’s view, thus symbolized the greatness of Western political culture. China’s dirty air, by contrast, only served to highlight its politically repressive atmosphere.

Yet in making a comparison between this incident and the Red Guards of the Cultural Revolution, Gracie overlooks the importance of environmental perceptions to shaping political and cultural perceptions. Put another way, China’s international reputation as a country with a “bad environment” informs negative perceptions toward its culture and politics. Another, less well-known comparison can just as easily be made to the “forest problem” of Republican China. Almost exactly a century before, in 1918, another American-educated Chinese student bemoaned the state of China’s environment and the shame that it had brought the newly declared nation. Ling Daoyang (凌道扬) describes several incidents in which Western foresters used images of China’s landscape to show the deleterious effects of deforestation. “Every time foreigners refer to the damage of China’s barren mountains it becomes a warning to the people of that country. This [means] that on the inside [they] receive a careful warning against this loss,

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3 凌道扬。森林要览。上海：商务印书馆，1918，p. 1.
but on the outside laughter and denigration remains." As Ling Daoyang looked at these images of China and listened to the laughter of his colleagues, he felt the shame of China’s backwardness in the face of a modern world. This experience, he explains, motivated him to return to China and promote reforestation so that China might stand on par with Western nations.

The state of China’s environment as a whole only came to be of interest to foreigners and Chinese around the turn of the twentieth century. However, instead of using pollution as their barometer for the quality of China’s environment, as in the twenty-first century, they used forest cover. China’s forests became the topic of conversation in international newspapers, guides, and lectures. In response, twentieth-century Chinese governments and elites developed a unique vision of environmental nationalism tied primarily to forestry.

This vision of the environment and forests was primarily economic and nationalistic, as opposed to particularistic and spiritual. In other words, China’s late imperial woodlands conservation practices were centered around tombs and temples. Over the course of the eighteenth and nineteenth centuries, population growth, migration, and warfare damaged these systems of protection and the trees under their care. Under ecological, economic, and international cultural pressure, twentieth-century states sought to create a state-led system of forest conservation that more aligned with foreign models. Just as importantly, central officials envisioned a forested Chinese landscape that more closely resembled foreign ideals. Through reforestation projects, twentieth-century state actors sought to extend forest coverage from the spiritual mountains and into the “civilized” valleys, allowing the trees to play a more direct role in public Chinese life.

However, to the chagrin of foresters, Chinese states and citizens privileged planting trees in sites of traditional cultural importance over the creation of large forests that would allow the nation to both become economically self-sufficient and look aesthetically modern. As foresters sought to harness these premodern ideas for modern purposes, the exact meaning and function of these forests only became more confusing. In the end, I argue that the Chinese version of modern forestry looked far more premodern than modern. Woodlands thus served as spaces through which local individuals, groups, or governments could resist the modern, utilitarian, and economic vision of the natural world. At the same time, woodlands also served as a framework through which Chinese could establish new relationships with the natural world.

In the nineteenth and twentieth centuries, powerful countries placed forests under central control to supply everything from railroad ties to utility poles, construction materials, and even guns. As we learn from James Scott’s seminal work Seeing Like a State, scientific forestry emerged from a desire to control forests and render them legible to the high modern state. Scott argues that the natural forest is difficult for the state to easily manage and comprehend, because it includes elements that are not directly related to the timber industry, such as animals and fungi. As a result, European states—beginning with Germany—established disciplines of scientific forestry to create more efficient systems of timber extraction. These “legible” forests looked like agricultural fields,
meaning one could grow more trees in the same area than a natural forest. As we shall see, modern Chinese states had high modernist ambitions just like those that Scott describes. However, they implemented high modernism through early modern techniques, such as merging forestry with ritual and relying on relatively little data to conduct reforestation projects.

Prior to the nineteenth and twentieth centuries, Chinese consistently created institutions through which to conserve woodlands. Late imperial institutions were private, rather than public, including rural temples and ancestral tombs. For instance, Mount Tai, the Confucius Woods 孔林, and graveyards held by local rural lineages all served as systems of private forest conservation. The population surge of the eighteenth century began to take a toll on these systems of forest conservation. As we shall see in Chapter 1, a local magistrate in Tai’an felt compelled to lead a reforestation program on Mount Tai around the turn of the nineteenth century to restore its forest cover. A few decades earlier, officials in Jiangxi bemoaned the erosion of their hills. Yet it was the expansion of the Russian, Japanese, British, French and German empires into Chinese territory during the nineteenth century, combined with internal rebellions, that devastated these already failing institutions.

At the same time, these empires introduced new technologies, such as the telegraph and the railroad, that demanded a large amount of timber. These empires further brought with them a set of values that equated a country’s forest cover with its degree of “civilization.” As a result, the Qing and Republican states professionalized Chinese forestry through the creation of bureaucratic and educational institutions. This professional class of foresters encouraged the Chinese public to view forests from the perspective of the nation’s economic requirements, meaning that they should reforest regardless of the area’s local climate or needs. The Republican state further established Arbor Day as a way to promote reforestation. However, local officials, elites, and commoners reforested according to their own desires. In the end, Chinese forestry ended up looking more premodern than modern, allowing China to remain ecologically “backwards” in the minds of foreign observers. At the same time, it revealed that the ecological, cultural, and material consequences of twentieth-century China’s lack of forest cover were of concern to Republican China’s disparate officials and elites. They attempted to solve this “forest” problem by integrating global frameworks and techniques into revitalized native institutions.

I. Literature Review

Scholars of China have long been interested in land as an object of study. Well into the 1980s, much of this interest derived from the land reform and agrarian movements

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6 宋思仁著。泰山书记 （1790 年）。汤贵仁、刘慧主编。泰山文献集成。济南：泰山出版社，2005 年。

in the PRC during the early 1950’s. For instance, in 1973 John Wong made the case for land reform as transforming the PRC’s agricultural capacity.\footnote{John Wong. \textit{Land Reform in the People’s Republic of China: Institutional Transformation in Agriculture}. New York: Praeger Publishers, 1973.} Victor Lippit argued in 1974 that China’s land reform movement had ultimately benefited the PRC’s ability to mobilize economic resources, which it could put toward infrastructural or state-building projects. In Lippit’s view, by eliminating the landlord class’ function as middlemen, the PRC was ultimately able to increase its revenue.\footnote{Victor D. Lippit. \textit{Land Reform and Economic Development in China: A Study of Institutional Change and Development Finance}. White Plains, New York: International Arts and Sciences Press, 1974.} Edwin Moise’s 1983 monograph takes the same issue from a different angle. In his comparison of Vietnamese and Chinese land reform, Moise argues that the primary goal of land reform was to forcibly wrest control of rural land from the landed gentry so that the Chinese Communist Party (CCP) could enact social revolution.\footnote{Edwin E. Moise. \textit{Land Reform in China and North Vietnam: Consolidating the Revolution at the Village Level}. Chapel Hill: University of North Carolina Press, 1983.}

This interest in land reform as a communist program evolved into an interest in tenancy as a social and economic issue in Qing and Republican China. In his 1981 article, Joseph Esherick uses the PRC land reform movement as a springboard through which to examine Republican tenancy patterns, arguing that the tenancy rate in Republican China was not as severe as the reformers in the Chinese Communist Party would claim.\footnote{Joseph Esherick, “Number Games: A Note on Land Distribution in Prerevolutionary China,” \textit{Modern China}, Vol. 7, No. 4 (Oct. 1981), pp. 387 – 411.} Lorens Brandt and Barbara Sands would continue this discussion of land in the Republican period through the lens of tenure, making a similar argument as Esherick that Chinese tenure was not abnormally high in comparison to contemporary global practices.\footnote{Loren Brandt and Barbara Sands, “Land Concentration and Income Distribution in Republican China,” in Thomas G. Rawski and Lillian M. Li, eds., \textit{Chinese History in Economic Perspective}. Berkeley: University of California Press, 1992, pp. 179 – 206.} Kathryn Bernhardt’s insightful 1992 study of tenancy in the Lower Yangzi Region during the late Qing and Republican periods takes on the issue from the perspective of rent and tax resistance movements. She argues that the reforms of the Taiping Rebellion marked a major shift in landlord-tenant relations, as the peasants now viewed the payment of taxes as the end of their financial liability and refused to pay rents to their landlords. The landlord class would never be able to fully recover from this blow to its power over the tenants. Rents during the Republican period would either remain stable or decline as compared to those of the Qing. In direct refutation of CCP narratives, Bernhardt thus claims that the increased level of peasant activism was due to changing politics, rather than shifts in the economy.\footnote{Kathryn Bernhardt. \textit{Rents, Taxes and Peasant Resistance: The Lower Yangzi Region, 1840 – 1950}. Stanford: Stanford University Press, 1992.}

Yet in all of these works land represents little more than a commodity to be divided among states and inhabitants. Little attention is given to the idea of land as shifting or variable due to interactions with humanity or environmental factors. Scholars of Western history have long since begun to study land in this way with the development of the field of environmental history. Works such as William Cronin’s \textit{Changes in the Land}\footnote{William Cronin. \textit{Changes in the Land: Indians, Colonists, and the Ecology of New England}. New York: Hill and Wang, 2003 (1983).} and
Nature’s Metropolis,\textsuperscript{15} as well as Roderick Nash’s Wilderness in the American Mind\textsuperscript{16} demonstrated that those who have resided in American territory, including non-white and non-agricultural peoples, have shaped the wilderness, just as the image of the wilderness has shaped American identity. Donald Worster’s Nature’s Economy\textsuperscript{17} and Samuel Hays’ Conservation and the Gospel of Efficiency\textsuperscript{18} have shown that understandings of “natural” spaces that lack dense human settlements shaped the development of American political economy. Similarly, trends in political economy, such as the early twentieth-century faith in the power of efficiency,\textsuperscript{19} also shaped the parameters of these natural spaces.

China’s renewed engagement with global environmental theories and practices has resulted in the growing interest in studying Chinese environmental history. Mark Elvin’s study of Chinese environmental history from the Han to the Qing Dynasties represents the seminal work in this field. Elvin argues that the Chinese desire to conquer and manipulate land has historical antecedents as far back as the Zhou Dynasty. In fact, Elvin views the “war against nature” as so integral to imperial statecraft and agriculture that it caused the Chinese environment reached a level of degradation unprecedented in the premodern world.\textsuperscript{20}

Yet recent scholarship has highlighted that Chinese attitudes toward the environment did not remain constant throughout the entire imperial period. Research by Kenneth Pomeranz and Peter Perdue has drawn attention to the dramatic impact newly emerging global technologies of statecraft had on China’s environment. Both scholars see the dramatic intensification of global land use beginning in the seventeenth century as a result of the increased need for resources to support military efforts to define and defend newly delineated borders in an age of large, multiethnic empires.\textsuperscript{21} Robert Marks identifies this same trend toward the intensification of land use in eighteenth-century Guangdong province. However, he attributes this to the population boom of the High Qing, as opposed to the rise of a new style of statecraft.\textsuperscript{22}

Whatever the cause, by the eighteenth century, Chinese began to notice the world had shrunk. The Treaties of Nerchinsk (1689) and Kiakhta (1727), which delineated boundaries between Qing China and the Russian Empire, called into question the belief in the limitless potential for Western expansion.\textsuperscript{23} At the same time, deforestation and the

\textsuperscript{19} Ibid.
\textsuperscript{23} Perdue. China Marches West.
concomitant reduction of arable land called into question the belief in the limitless potential of the earth to produce.  

This anxiety over the heightened competition for land and resources manifested itself across ethnic and social classes. Qing emperors commissioned Jesuit cartographers to create new, Western maps which, in stark contrast to their Ming counterparts, portrayed land rather than people as the primary resource of concern to the state. Scholar officials mined the Classics for clues to combat erosion. And, for the first time, local elites began to define the Confucian term "public (gong 公)" primarily in terms of land and natural resources.

These anxieties had more dire consequences for the less privileged majority. Murder rates in Guangdong, Sichuan and Shandong Provinces spiked as peasants competed for arable land in a society that increasingly valued land as a commodity more than land as patrimony. At the same time, the land crisis in the Yangzi River lead to an influx of migrant peasants who farmed New World crops in the hills of Jiangxi Province. The tendency of maize in particular to strip the soil of the nitrogen and iron necessary for other crops to grow only caused the erosion problem to worsen, a connection which did not escape the already apprehensive native population.

As the rivers continued to rebel, to use Ann Osborne's phrase, over the course of the long eighteenth century, only state intervention through the public granary system prevented the death rates from becoming catastrophic.

As this brief literature review suggests, with the noted exception of Mark Elvin's argument for imperial China's millennia-long war against the natural environment, the recent literature has identified the eighteenth century as a critical juncture in the history of the modern Chinese environment as well as Chinese resource management practices. In so doing, the literature largely views environmental decay as the natural result of the emergence of a rational, modern state that sees land in terms of its potential to produce resources such as food and timber.

As the emerging literature on the environmental history of empire expansion is beginning to show, this is very much in line with global trends. The expansion of empires into new spaces brought about changes in environmental ideologies. Richard Grove's impressive work *Green Imperialism* studies the origins of modern, Western

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28 Osborne, *Barren Mountains*.


environmentalism in the eighteenth century. At this moment in time, Western naturalists traveled the world as advisors on merchant ships, thereby becoming exposed to new ideas and ecologies. Grove argues that the British and French colonization of islands in the Caribbean marked a turning point in Western understandings of the environment. French and British naturalists explored the world on merchant ships, coming into contact with non-Western conceptions of environmental change. Grove notes that time spent in India and China exposed these naturalists to Buddhist ecological pre-ideas, namely the notion that elements of the natural world are all interconnected. This exposure helped them to make sense of the rapid ecological deterioration in their Caribbean colonies, which they correctly attributed to the intensity of European land use. This, in turn, inspired the development of Western environmentalism.

Like Grove, Ryan Jones argues that the experience of empire can dramatically shift the scope of environmental consciousness. In *Empire of Extinction*, Jones studies the environmental consequences of the expansion of the Russian tsarist empire into the North Pacific region. As a result of the intense demand for pelts, the Steller’s sea cow was hunted to extinction. Through this experience, Russian and European naturalists first came to understand extinction as a concept. These same naturalists began to use this loss in biodiversity to critique the extractive nature of imperial governance, thereby creating an international framework to undermine the credibility of empires through the invocation of environmental principles. This, in turn, incited imperial states to create laws and institutions through which to regulate environmental extraction even in the remote borderlands.

To wit, my reading of the China literature suggests that even under the unifying framework of empire, responses to environmental decay are not natural, pre-ordained, or even timeless. Global, national and local pressures toward the intensification of land use in the seventeenth and eighteenth centuries elicited responses that were unique to Qing China. These include imperial policies designed to protect Manchuria alone from the “destructive powers” of agriculture through the isolation of large swaths of territory from Han migration. Nicholas Menzies argues that Manchuria served as a cultural, rather than an economic resource for the Qing state, because it was the Manchu imperial household’s ancestral homeland.

David Bello’s *Across Forest, Steppe and Mountain* expands on this argument. Bello argues that the Qing imperial household valued Manchuria and its other borderland regions for cultural and political reasons unique to the formation of a Qing empire. The state managed the ecologies of the borderlands in an attempt to preserve traditional lifestyles, such as Manchu foraging and Mongol pastoral nomadism as a means to ensure the loyalty of these peoples to the imperial household. This use of ecology to maintain traditional ethnic identities served to support Manchu authority over a diverse and sprawling Chinese empire.

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Jonathan Schlesinger’s recent study of the Qing fur trade further points to the *material* importance of borderland environments to the Qing state and its peoples. Prior to the establishment of the Qing, Han Chinese had little knowledge of the animals and plants beyond the Great Wall. With the rise of Qing rule, Manchuria’s environment became integrated into the lives of elite Han Chinese through the material consumption of furs and plants such as ginseng. This, Schlesinger claims, led to the growth of an understanding of Manchuria as a pristine wilderness, serving as the dawn of modern Chinese environmentalism.\(^{35}\)

Even within the same empire, not all Chinese spaces experienced the rise of global empires in the same way. In the Han Heartland below the Great Wall, a growing disbelief in the power of man to bend nature to his will manifested itself in the emphasis on both the central and local levels on maintaining the existing hydraulic infrastructure. This stood in direct opposition to the penchant during the early and mid-imperial periods for initiating large-scale projects to address issues of flood control.\(^{36}\) This trend complements a growing preference in local irrigation for "natural" solutions to environmental problems, such as the use of grass-eating fish to keep Hangzhou’s famous West Lake clean.\(^{37}\)

The considerably smaller literature on questions of land and the environment in nineteenth-century China suggests that shifts in these policies did not indicate the amelioration of the environmental crisis. Rather, it views the continuation of the environmental crisis as not only an extension of eighteenth-century trends toward population growth and the intensification of land use, but also as a result of the need to shore up coastal resources to combat the West. As such, it further supports the view that the relationship between humans and the environment is dependent on shifting definitions of the concept of "resource." For instance, Nicholas Menzies attributes the end of the imperial Autumn Hunt in 1821 and the loosening of restrictions on timber felling that followed to shifts in central priorities as to what made Manchuria a valuable resource; nineteenth-century emperors ceased to see the region as a valuable cultural resource in the form of a landscape, instead choosing to view it as an economic resource in the form of arable (and therefore taxable) land.\(^{38}\)

Similarly, the nineteenth century also witnessed a shift in focus away from a belief in hydraulic management as a source of local and imperial power. In his study of Xiang Lake in Zhejiang Province, Keith Schoppa notes that while eighteenth-century local officials and even elites had taken great pains to promote the maintenance of irrigation networks as a sign of good governance, their nineteenth-century counterparts remained remarkably silent on these issues.\(^{39}\) To wit, Ken Pomeranz’s study of the Huang-Yun region during the last few decades of the nineteenth century shows a decline in the


\(^{37}\) Anne Osborne, "Economic and Ecological Interactions in the Lower Yangzi Region under the Qing," in *Sediments of Time*, p. 222.

\(^{38}\) Menzies, p. 64.

\(^{39}\) Schoppa, pp. 158 - 60.
imperial interest in and maintenance of the inland hydraulic infrastructure as a resource in favor of coastal defense. This shift in imperial priorities, Pomeranz argues, caused many of the famines that plagued the Chinese countryside in the final decades of the nineteenth century. The social historians of the turn of the twentieth century have documented the destabilizing effects these natural disasters had upon the rural population and even on the country as a whole, as the scramble for scarce resources turned poor and unemployed men to banditry. The "friction" of the terrain – or the state's inability to easily penetrate it – only furthered this cycle of violence and instability. As Schoppa, Pomeranz and also Elizabeth Perry all emphasize, the state's ability to control and extract from all types of peoples and natural resources, no matter their location, would later become a core concern of Republican statecraft.

The geography and nature of China's twentieth-century environmental crisis thus originated in not only in the geopolitics of the eighteenth and nineteenth centuries, but also in shifting political-cultural definitions of resource.

The Making of a Hinterland forms a key starting point for my own research on resource management in the Republican era for several reasons. First, it is one of the only major Western scholarly work to focus extensively on the management of natural resources in the Republican era. Scholars who have studied Republican political economy, most notably Prasenjit Duara and William Kirby, have largely focused on questions of finance and industry. When they have referenced land, as Kathryn Bernhardt did in her 1992 work, they have chosen to treat it as the abstract concept of "property." It is only with the relatively recent rise of environmental history as a subfield that human and state interactions with land as part of a larger environment has come to the foreground. However, we saw in the above literature review, environmental historians of China have largely focused on the eighteenth century. Keith Schoppa's monograph does include a chapter on Xiang Lake during the Republican era in order to make the point that the rise of a strong, modern Chinese state represented the death knell for many of China's bodies of water. However, as the primary concern of his study is a single region the mid to late imperial period, his treatment of the Republican period is understandably less thorough than that of Pomeranz.

Second, Pomeranz views humans, states, and the environment as influencing one another. As I have mentioned above, several social historians have argued that topography played a critical role in fostering a culture of banditry and rebellion throughout

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43 Schoppa, pp. 167 - 212; Pomeranz, Making of a Hinterland, pp. 120 - 152; Perry.


46 Schoppa, pp. 167 - 212.
the late Qing and Republican periods. Recently, James Scott has expanded on this theme of the decisive role that topography plays in restricting state-society relations in his study of Zomia – a mountainous region that crosses several national borders from Southeast Asia into what is now southwestern China. As valuable as these reminders of the limits of the pre-modern or pre-communist states' inability to penetrate difficult terrain have proven to be, the inherent weakness of these studies lies in their inattention to the ability of humans and states to actively shape their environment, rather than simply become passively shaped by it.

This passive view of human interaction with the environment leads the scholar dangerously close to environmental determinism. Perry, Esherick, and Cohen fortunately do not take this view to the extreme that scholars such as Karl Wittfogel and Weber did in the early twentieth century, both of whom argued that China's ecological conditions fostered a state culture that proved inimical to the economic and cultural benefits that Western-style capitalism would have provided. Although later scholars have attempted to distance themselves from the view that Chinese imperial society was fundamentally inferior to those of its European counterparts, scholarship that takes a passive view of human interaction with the environment reinforces claims that certain societies are predestined – if not by divine intervention, then by geography – for evolutionary success. Furthermore, recent scholarship has drawn attention to the fact that even societies that do not embark on large-scale feats of engineering actively shape their environment. Therefore, by studying both the impact of natural and man-made environmental features upon China, environmental historians such as Pomeranz grant Chinese people and states a greater degree of agency than earlier studies on the impact of topography alone succeeded in accomplishing.

A final and related strength of Pomeranz's work lies in its willingness to view human geography as variable and historically contingent. The Making of a Hinterland relies on the assumption that the concept of a "hinterland" only exists in a society that exhibits a political preference for coastal regions. In addition to the fall of the counties surrounding the Grand Canal from imperial favor that Pomeranz documents, the rise of Shanghai as a city of great political and cultural repute represents the most significant manifestation of this trend. Expanding on this notion of the connection between culture and human geography, Wen-hsin Yeh's Provincial Passages examines how the rise of Shanghai changed the intellectual and cultural landscape of Zhejiang province. She argues that the experience of traveling from the geographic hinterland to large, coastal cities such as Shanghai during the Republican period helped foster a culture of anarchism among educated provincial youth, which in turn allowed them to be more receptive to communist ideals. Human interaction with China's geography, both in its physical and cultural form,
thus inspires a transformation of ideas. I expand on this theme in my own research as I link the Chinese cultural and intellectual experiences with geomancy and Western scientific forestry to the physical experiences of environmental change.

In spite of the many strengths *The Making of a Hinterland* possesses, however, my project seeks to problematize one of the core assumptions found in this and other studies on early twentieth-century Chinese and global political economy. Namely, I question whether the "modern" state in fact represents a monolithic entity divorced from the intellectual dilemmas of the society it inherits. James Scott's *Seeing Like a State* serves as a key example of a work that espouses this ideal. Scott astutely points to the growing importance of resource management programs to modern statecraft in a wide variety of cultural and geographic contexts. Further studies of the non-Western world, such as Nancy Peluso's monograph on colonial and post-colonial Javanese forestry, Laura Hostetler's work on Sino-European cartographic culture, as well as Peter Perdue's studies on imperial Chinese resource management continue to support Scott's claim. These works all predicate their analyses on the assumption that the modern, bureaucratic state will have essentially the same concerns no matter the cultural context. In other words, the state only concerns itself with the ideological inasmuch as it pertains to the financial.

This is an assumption that continues to pervade even recent work on the politicization of Chinese religion during the Republican period. Rebecca Nedostup's recent study of the Nationalist-led anti-superstition campaign serves as an excellent example of such works. She argues that the Nationalist Party attempted to create a secular regime based on mass mobilization and popular support. Through the categorization and standardization of religious groups, as well as the concomitant establishment of a religious hierarchy, the Nationalists sought not only to weaken the control of temple associations on Chinese society, but also mobilize them as agents of local power in service of the nation. In this process, some groups were arbitrarily discriminated against in the anti-superstition campaigns for their connections to certain political groups. Other groups, such as those temples sponsored by private citizens rather than public efforts, were merely encouraged to incorporate their activities within the scope of the nation.

This blurry line of acceptance versus discrimination was confusing even to members of the Nationalist Party. For Nedostup, this demonstrates that the Chinese idea of what did or did not belong in the nation was still a work in progress. Furthermore, this all serves as evidence that the Nationalists were never able to create a coherent set of cultural and/or religious symbols within a secular nation-state framework upon which to mobilize the nation. As such, she concludes that the Nationalist state was inherently a secular regime that governed a largely religious (or, in the language of the Nationalists, "superstitious") populace. However, as it was unable to secularize its citizens it proved to be an affective, rather than an effective, regime.

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52 Scott, *Seeing Like a State*.
55 Ibid.
To better understand how a study of Republican Chinese political economy could benefit from a more “interactive” approach between popular culture and statecraft, let us use Pomeranz’s study as an example. In a core chapter of his book, he argues that the modernist rural development efforts of the Republican era largely centered on a concern for managing the impending ecological disaster in order to "strengthen the nation," rather than aid the people.\(^56\) As evidence, he cites a 1914 document in which the Ministry of Agriculture and Commerce 农商部 justifies making the town of Taian the focus of Shandong provincial forestry efforts by invoking ideals of economic utilitarianism. After all, the document points out, Taian’s denuded hills lie dangerously close to the regional railroad line.\(^57\) What Pomeranz fails to mention, however, is that Taian’s "hills" include Mount Tai: China’s most sacred mountain and site of the imperial cult of Heaven. By prioritizing sacred, mountainous spaces in its reforestation efforts, the Republican state set itself in the tradition of Chinese officials of the Qing Dynasty, who would plant trees on sacred mountains in an attempt to preserve the area’s fengshui.\(^58\) Traditional conceptions of geomancy and cosmology, one could argue, played just as much a role in the articulation of political economic practice as both the financial needs of the state and the suggestions of Western scientific theory.

For another example as to how my approach challenges one of the core assumptions of the literature on Republican politics, let us return to Nedostup. Toward the end of her work, she provides an account of Nationalist efforts in the Nanjing Decade (1927 - 1937) to ban the celebration of the Hungry Ghost Festival 孟蘭: a traditional Chinese holiday when local residents would attempt to appease the ghosts of those who had died in unnatural ways through offerings of food and entertainment.\(^59\) She places this story within her larger narrative of the rise of a secular state attempting to eradicate beliefs that did not fit within a modernist framework, much in the same way that James Scott argues that high modernist states attempt to simplify resource extraction through the promotion of homogenizing programs that dismissed local knowledge.\(^60\) However, Nedostup’s framework does not adequately account for the existence of political figures such as Chen Guofu. As the governor of Jiangsu from 1931 - 1937, he was a key figure in the campaign against "superstitious practices." At the same time, Chen Guofu also promoted traditional Chinese medicine – which, by Nedostup’s definition, could just have easily been labeled superstitious – as superior to Western medicine.\(^61\) Nor does Nedostup’s framework of the secular state provide an adequate explanation for the failure of the Nationalists to attack Tomb Sweeping Festival. As with the Hungry Ghost Festival, Tomb Sweeping Festival represented an attempt to establish an amicable relationship with the spirits of the dead through feeding their spirits near the site of their remains. The main difference lied in the relationship of the ritual practitioner

\(^56\) Pomeranz. The Making of a Hinterland, pp. 120 - 152.
\(^57\) Ibid, p. 139.
\(^59\) Nedostup, pp. 244 - 251.
\(^60\) Scott, Seeing Like a State.
to the soul in question: one swept the tombs of one's ancestors, while one fed the ghosts of strangers. Why, then, did the Nationalists attack one and not another?

This was one of the key questions I answer in Chapter 5, which describes the Arbor Day. From 1915 to 1928 the Beiyang government celebrated Arbor Day on the same day as Tomb Sweeping Festival. In fact, many contemporary texts referred to the holiday as Tomb Sweeping Arbor Day 清明植树节. The concept of Arbor Day originated in the recent American tradition, which was designed in part to inculcate the concept of environmental stewardship in American children, and in part to promote forestry and the timber industry. Similarly, the Republican Ministry of Agriculture and Commerce conceived of Tomb Sweeping Arbor Day, in concert with programs such as the establishment of village-level forestry associations 林业公会 in 1916, as a way to promote forestry at the popular level. Local officials and students played the role of farmers as they instructed villagers in tree-planting techniques, all the while extolling the benefits of reforestation for the local and national economy. Officials infused their speeches with the geomantic language of mountain veins 山脉 and flood dragons 蛟龙 and displayed a preference for mountainous topography for ritual sites. Tomb Sweeping Festival thus began to be simultaneously associated with both the traditional geomantic and cosmological worldview, as well as the new language of economic development and modern statecraft.

Henrietta Harrison’s study of Republican political ritual has argued that "the people of China today are Chinese not because of their participation in the traditional rituals of birth, death and marriage, but because of their participation in modern rituals of statehood." State rituals that emerged in the early years of the Republic, she argues, created a modern (or “foreign”) identity for Chinese of all occupational and political backgrounds that called upon them to reject the traditions of their past in order to belong in the society of the present. However, my study of the ritual of Arbor Day suggests that the dichotomy between past and present, traditional and modern was not so clear in the early years of the Republic. While new images of the human body that followed the queue-cutting and anti-footbinding campaigns outlined by Harrison might have appeared shockingly transformative, Republican images of land, nature and death contrasted quite so starkly with those of their Qing predecessors.

Relying upon my research into Arbor Day and other aspects of late Qing and Republican forestry, I argue that geomancy and science came to complement one another in the early years of the Republic through the active participation of officials and elites, who, perhaps unintentionally, incorporated unscientific values toward death and hierarchies of space into state forestry programs. In this line of thought, I follow the

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62 陈嵘，著。历代森林史略及民国林政史料。南京：金陵大学农学院森林系林业推广部，1934 年，第 72 到 77 页。

63 See, for example: 江西巡按使，〈劝植树白话〉江西省农会报，第 8 期（1916 年），第 1 到 5 页。

64 According to geomantic theory, hilly or mountainous areas typically had better fengshui，as a locality’s geomantic veins inevitably originated in a prominent local mountain. Trees protected these underground veins, which in turn contributed to the cosmic well-being of the region. For an example of Republican officials advocating that Arbor Day be celebrated on hilly terrain, see the Ministry of Agriculture and Commerce's petition to the president of the Republic that the 1917 national ritual take place in the Western Hills, which were 48 km away from central Beijing: 农商部，《呈大总统本年清明植树节拟定地点请核定由》（1919 年 3 月 22 日）农商部公报，第五卷第九册（1919 年 4 月），第 21 页。

theories of historians of science, most notably those of Ludwik Fleck. His history of syphilis argues that scientific "facts" do not represent pre-existing realities that have been discovered by the ingenuity of the modern scientist, but rather, like the social fact, represent social constructs decided by a specific "thought community." Fleck argues that this community can decide to change the fact and, in so doing, reject the former belief. However, "pre-ideas," or former iterations of the fact, still remain. In the case of syphilis, its medieval iteration as the "carnal scourge" shaped the creation of the medical "fact" that syphilis is a sexually transmitted disease that results from abnormal and immoral behavior (e.g. promiscuity). Similarly, "pre-ideas" of sin and disease as a battle to be waged against informs the treatment of syphilis in the twentieth century. To extend this frame of analysis to the case of Republican China, geomantic pre-ideas about the hierarchy and essence of natural space informed forestry practices.

Like Fleck, I certainly do not claim that this "traditional" culture remained unchanged, a fact which becomes clearer when we take into account the conflicting attitudes toward the popular relationship with spirits of the dead found in the Nanjing Decade. I suggest in Chapter 5 that the simultaneous campaign against the Hungry Ghost Festival as well as the promotion of Tomb Sweeping Festival could just as easily represent a desire on the part of the Nationalist state to promote a more benevolent image of the dead that accorded with traditional literati imaginations of the spirit world. Eugenia Lean's account of the trial of the vigilante Shi Jianqiao has suggested that the Nationalist state was surprisingly receptive to "popular" (read: elite) ideas of morality and justice. Furthermore, Evelyn Rawski has argued in her historical study of Chinese death rituals that the increasing standardization of popular death rituals beginning in the Song Dynasty reflected the growing capacity of local elites to dictate the parameters of the expression of popular culture.

The study of Arbor Day suggests that this remained true for the Republican period as well. The imperatives of modern statecraft to maximize the extraction of resources encouraged the Republican state to promote forestry. The programs that emerged out of this desire took on a distinct cultural dimension that was in no way predetermined by the "facts" of modern science or the "rational" response to environmental decay. Geomancy as practiced by literati "fengshui masters" in the late imperial period allowed for an association between cultivating the environment and promoting the cosmological well-being of both the living through the protection of geomantic veins, as well as the dead through the proper siting and care of their graves. These "pre-ideas" informed the cultural expression of forestry programs, from the sites and dates on which they took place to the type of people who helped shape them. My reading of both primary and secondary materials on this topic thus shows that the story of Republican resource management is less one of the victory of Western science and modernist statecraft than one of the

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reimagining of the role of the cosmological worldview advanced by classic texts as far back as the *Book of Changes*.

II. Overview of the Dissertation

The dissertation begins with Chapter 1, which provides a general overview of Chinese forest management practices prior to the nineteenth century. Here I argue that, contrary to the claim advanced by scholars such as Mark Elvin, Chinese have consistently valued woodlands for their material, cultural and ecological benefits. However, the means through which they conserved woodlands varied across historical time and space. Initially, Chinese states laid claim to large swaths of non-agricultural land, including woodlands. Beginning with the Song Dynasty (960 - 1279), control over woodlands began to fall to private institutions, lineage tombs and rural temples. As a result, China developed highly localized systems of environmental conservation that were tied to Buddhist and Daoist spiritual beliefs. The wars, population migrations, and natural disasters of the nineteenth century upset these religious systems of conservation, leading to the barren landscapes foreign missionaries and Chinese elites noted in the late nineteenth and early twentieth centuries.

Chapter 2 discusses changes in how the state saw timber over the course of the nineteenth and early twentieth centuries. Here I draw upon Shellen Wu’s recent work on the rise of coal as a national resource. I argue that prior to the late nineteenth century, timber was not considered to be the purview of the Qing imperial household. This stood in sharp contrast to European, Japanese, and colonial governments, which, as James Scott argues, saw timber through the unifying lens of the state’s material needs. Though the Qing imperial household did restrict logging in the forests of Manchuria and license merchants in certain areas, it by and large left the management of woodlands to private groups and individuals. The Qing state even purchased the timber it needed for imperial construction projects from private merchants, rather than directly harvesting the timber itself as the Ming state had done during its rule.

However, over the course of the nineteenth century timber became scarcer due to warfare with foreign powers and internal rebellions. At the same time, foreign states also brought with them new technologies of warfare and governance, namely the railroad and the telegraph, that required large amounts of timber. Furthermore, these same foreign states brought with them an emerging cultural belief that a nation’s forest cover was indicative of its level of cultural enlightenment. Put another way, as James Hevia explains in his work *English Lessons*, imperialism expressed itself both through physical violence and through cultural pedagogy. I expand on this framework by pointing out that this physical violence and cultural pedagogy also expressed themselves ecologically. These three factors, combined with Japanese and Russian encroachment on timber-rich

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70 Elvin.
72 Scott, *Seeing Like a State*.
Manchuria, encouraged the Qing and Republican states to see China as having timber resources to be conserved and exploited.

Chapter 3 provides a case study of changing attitudes and management practices of forests in Jilin Province in the late nineteenth and early twentieth centuries. During this time period, this densely forested province in Manchuria experienced radical shifts in its demographics. At the same time, rapid technological change, primarily the adoption of the railroad and the telegraph, also began to shape the landscape in new ways. Furthermore, Russian expansion into the region caused the Qing state to relax Han migration restrictions. As such, Han Chinese, Russian, Korean, and, later, Japanese conceptions of land management all began to shape the landscape. Farmers began to log in the hills, and railroads began to cut visible lines in forests. All of this alarmed Jilin's elites, leading to the development of a distinct form of environmental nationalism rooted in forestry. I argue that Jilin's elites and officials came to view forest cover as a matter of concern, albeit for different reasons than their counterparts in Beijing.

Chapter 4 returns to the Han Heartland through a narration of the rise of state-led forestry in the Republican period. I show that the dominance of Japanese education models in late Qing agricultural colleges led to the development of a new language to discuss forestry as exemplified by the incorporation of the Japanese loanword *senlin* 森林 into the Chinese lexicon. This new word differed from previous conceptions of woodlands in that it was not restricted to a specific type of topography such as the mountain, nor was it only limited to religious or spiritual spaces. Rather, a forest could also cover secular spaces and flat terrain that could be used for agriculture. Furthermore, this idea of the forest was fundamentally the same throughout the globe in that it could be categorized and analyzed by the state. As such, particularistic understandings of woodlands, such as the *weji* in Manchuria, were no longer modern. Professional foresters, such as the American-trained Ling Daoyang 凌道扬, were influential in promoting this new understanding of woodlands among elites through the publication of textbooks, periodicals, and articles in official publications such as the *Bulletin of the Ministry of Agriculture and Commerce* 农商公报.

In Chapter 5, I discuss the development and implementation of Arbor Day as an institution for promoting widespread awareness of the importance of reforestation to developing a modern Chinese economy and culture. The Beiyang regime's Ministry of Agriculture and Commerce 农商部 and the Nationalist Ministry of Industry 实业部 chose to incorporate premodern ritualistic elements in their promotion of reforestation. As such, though they imported the idea of a national holiday to promote public awareness of forestry from the United States, American observers would have found little recognizable in Chinese ceremonies. Each American state celebrated Arbor Day on a different day of the year, depending on local climate. During the Beiyang period, Arbor Day took place on the same day as Tomb-Sweeping Festival 清明节. During the Nationalist period, it took place on the anniversary of Sun Yat-sen’s death (March 12th). Americans also celebrated Arbor Day primarily in public schools. However, China’s Arbor Day was a public affair, designed to instruct students, farmers, elites, and officials in the role that forestry was to play in the modern state. As such, in creating Arbor Day, Chinese officials showed a
willingness to innovate and create a modern landscape that was still recognizably Chinese.

Yet this attempt at innovation only served to confuse local Arbor Day participants. Both the Beiyang and Nationalist versions of the holiday attempted to harness China’s existing cultural traditions surrounding death, commemoration, and tree-planting for the purposes of promoting their vision of modern and economic woodlands tied only to the needs of the state, rather than the needs of local ancestral dead or spirits. In other words, in mandating that local governments plant trees on the same day throughout all of China, central officials revealed a belief that China was united by both death rituals and deforestation. Chinese Arbor Day further ignored local needs by mandating that all provincial and county governments plant trees on the same day, regardless of the suitability of local conditions to planting trees at that particular time of year. This, combined with Arbor Day’s curious blend of premodern commemoration rituals as well as economic and environmental nationalism, revealed how ecological concerns served to both unite and undermine the fragile unity of Republican states.

Finally, Chapter 6 discusses the practice of reforestation in Republican China, both within and outside the confines of the institution of Arbor Day. I argue that reforestation practices varied from locality to locality, despite the unifying intentions of Republican states. The practice of reforestation further revealed that, despite the shortcomings of central programs described in Chapter 5, many Chinese communities embraced the call to reforest out of concern for local quality of life, including the aesthetics of the landscape, ecological concerns such as air quality, temperature and flooding, as well as the ability to locally source timber materials.

This localized enthusiasm for reforestation revealed itself in the number of trees planted, the development of institutions through which to protect these trees, as well as the types of locations in which these trees were planted. As it became clear from early failed efforts at reforestation that reforestation required technical knowledge that local communities did not necessarily possess, provincial and local governments developed reforestation guides tailored to their localities. Even as they promoted the idea of reforestation as a means of modernizing China by bringing it more in line with global trends, they tailored the specific benefits of reforestation to their communities. Some listed landscape aesthetics as the highest priority for reforestation, while others listed economic concerns. Individual magistrates or elites further sponsored reforestation projects in different types of locations, including local hillsides, flatlands, public offices, schools, roadways, and the banks of rivers. Though some of these locations, such as hillsides and schools, corresponded with traditional reforestation models rooted in fengshui beliefs, many did not. As such, I argue that the implementation of reforestation represented the efforts of many local, Chinese communities to create their own visions of modern landscapes independent of Western models.
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Secondary


Chapter 1: Knowing Forests Before the Age of Global Timber: The Pre-Ideas of Modern Chinese Forestry

I. Introduction

Should historians concern themselves with China’s woodlands? What can it add to our understanding of the Chinese past? Were I to pose these questions in the nineteenth century, the answers would likely be “no” and “little.” The presence of trees in a Western Gansu valley in 1720 hardly helps us understand how the Kangxi Emperor interacted with Jesuit missionaries or made policy decisions. True, deforestation can and does lead to erosion. This, in turn, increases the incidence of flooding, which necessitates the involvement of the eighteenth-century Qing state. But the task of attributing these incidences of flooding to deforestation lies more within the purview of the natural sciences than of history. The traditional scientist asks why the river floods and the traditional historian asks how states and their people responded.

But I am not posing the question of the importance of historical woodlands to understanding the Chinese past in the nineteenth century, but in the twenty-first. In the nineteenth century, the state of forest cover beyond the local context and the span of living memory was of concern to no one. By the twentieth century, the state of all of China’s historical forests would become the subject of Western discussion and speculation. For instance, a 1919 article by the *New York Times* declares that the American Forestry Association “draws lesson from China” in advocating for a national forest policy. “The effect that deforestation has had on such countries as China is a matter of common knowledge, and, while the forest resources of this country are looked upon by most persons as practically inexhaustible, so, doubtless, at one time, were the forests of China.”

Even those who refuted the importance of forest cover to the health of a modern nation invoked the history of China’s environment. A 1916 editorial in the *New York Times* noted: “China is constantly cited as an example of the vast destruction wrought by floods as a result of deforestation. Yet the testimony of history is that the floods of the Hoang-ho, or Yellow River – the great flood stream of China and known from old as ‘China’s sorrow’ – were as destructive and frequent 2500 B.C. as they are today.” In short, the long history of China’s forests was seen as relevant to the American public, because it revealed the consequences of having a culture that devalues forests.

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75 “Declares Forests Must Be Conserved; President of American Association Stresses Need for a National Policy; Draws Lesson from China; More Than Three-quarters of Our Original 850,000,000 Acres of Timber Already Gone,” *The New York Times* (October 12, 1919).
Late twentieth and twenty-first century historians of China have not been immune to seeing forest cover as a worthy subject of inquiry. Nor, for that matter, have they been immune to seeing China’s historical relationship with its forests as revealing flaws in Chinese value systems. In his extensive survey of the history of the environment in imperial China, Mark Elvin argues that the intensity with which Chinese deforested their land distinguishes them from the rest of the world’s civilizations. “I think there was a distinctively ‘Chinese’ style to the ‘premodern economic growth’ that gradually, and with some notable regressions followed by renewed advances, as well as periods of temporary imbalance . . . produced a thoroughness of environmental exploitation that was distinctive in the premodern world.”77 In other words, Elvin claims that what unites China’s past is the desire to conquer woodlands. “Chinese culture was as hostile to forests as it was fond of individual trees,”78 he concludes.

Though not strictly an environmental history, Peter Perdue’s study of agriculture in Hunan province takes a similar view as Elvin with regard to the relationship between Chinese values and its deforestation problems. Perdue argues that Hunan’s ecological problems intensified over the course of the Qing Dynasty. As migrants expanded into Hunan, the amount of land under cultivation increased, which, in turn, lead to erosion problems. Local officials attempted to restrict expansion into the hills by encouraging peasants to intensify the cultivation of already existing fields. Yet such efforts ultimately failed, as, according to Perdue, Hunan’s officials were unable to persuade farmers to value the needs of the public over selfish interests.

The ultimate causes of the failure of the Qing state to restrain excess clearance lay in its inability to create a national consciousness. It could not persuade or compel local peasants to sacrifice immediate gain for common benefit ... The early awareness of the impending crisis by Qing officials proves their insight into rural environment; their inability to solve the environmental problems demonstrated the state’s limited impact on the society.79

Put another way, Perdue assumes that, with the exception of a few select prescient officials, Chinese instinctively tended to exploit the land to the point of exhaustion. Still, Perdue does not go as far as Elvin as to overtly characterize this behavior as uniquely Chinese. Nevertheless, there still remains a fundamental assumption that to be Chinese was to seek to exploit as much land as one could.

As such, the study of forest management before the twentieth century is necessary precisely because the twentieth century has taught the world that a civilization’s environmental culture is something to be studied and assessed. Civilizations that manage the environment “properly” are to be praised, while those that fail to do so are to be denigrated. By reexamining imperial Chinese forest management, as several scholars I

78 Ibid, p. xvii.
will cite below have begun to do, we challenge long-standing misconceptions about Chinese relationships to the natural world.

Yet concerns about the politics of the present are not the only reason to study the historical relationships between Chinese and their woodlands. As we shall also see below, woodlands served as important cultural and economic sites throughout the imperial period. Economically, woodlands provided the necessary materials for construction, printing, fuel and art. In addition, they allowed for greater integration of peripheral and non-Han markets with those in Beijing and the prosperous Jiangnan region. Culturally, woodlands served as physical markers of spaces that stood apart from everyday life, including ancestral tombs, temples, and sacred mountains. The forest cover in these areas served as indicators of the spiritual well-being of local lineages or communities. Furthermore, late imperial Chinese also recognized woodlands for their ecological functions, in particular their ability to prevent erosion and, in turn, flooding. They expressed this understanding through geomantic language that merged Daoist, Buddhist, and localized spiritual traditions. As such, the study of woodlands reveals extent to which Chinese scientific observations of the natural world were shaped by religious frameworks that merged Chinese literati tradition with local practices.

Across the imperial period, the material needs of Chinese states threatened to undermine the balance communities struck between agricultural and forested land. Yet the influence of the state was not consistent as dynasties and populations rose, fell, and shifted. Nor was the dominance of the Han tradition consistent throughout the geographic span of empires or the passage of time. In short, Chinese attitudes toward woodlands prior to the twentieth century varied widely across the span of time and space. When twentieth-century Chinese states attempted to impose a standardized woodlands framework under the imported term “forest (senlin 森林),” they encountered a diverse, highly variable and localized woodlands management system.

II. Chinese States Managing Forests: An Overview

Broadly speaking, China has long had a faith in the importance of understanding and managing woodlands, even before the arrival of the term “forest (senlin 森林)” to China in the twentieth century. As forest historians of pre-modern China have shown, logging, the cultivation of trees for economic purposes, and the preservation of trees to create a balanced natural environment all have deep roots in pre-modern Chinese thought, practice, and governance. With regard to the latter, archaeological excavation has revealed that even in China’s first unifying dynasty – the Qin (221 – 206 B.C.) – the imperial government established a system for managing and mapping the forests in its territory.80

Forestry historian Jiao Guomo divides the history of Chinese forest administration into four periods. The Intact Forest Period (森林完整期) lasts until the beginning of the Three Dynasties (Xia, Shang and Zhou) around the second millennium B.C. During this time period, the population was low and resources commonly shared. As such, the human impact on woodlands was minimal. During the Forest Destruction Period (森林破壞期), which lasted from the Three Dynasties until the end of the Han Dynasty in 220 C.E., this impact became more noticeable. Forests were considered public land, meaning they belonged to the ruling households. However, in the event of a famine, officials would lift the ban on commoners entering forest and marshes. Forests in the Northwest started to gradually deteriorate due to war and hunting. The Yellow River\(^{81}\) also began to flood more frequently during this period.\(^{82}\)

The Forest Destruction Period was followed by the Agricultural Penetration Period (農作侵入期), which lasted from the Northern Wei (386 – 534) to the Tang Dynasties (618 – 907). During this period China’s population increased and famers sought more and more farmland. Forests began to be privately occupied during this period, even though they were nominally public land.\(^{83}\) Still, the Tang Code included punishments for setting fire to and logging in dynastic woodlands. The Tang state also undertook active reforestation efforts in its cities, in particular the capital of Chang’an (contemporary Xi’an). Under the well-fields system, it also required farmers to plant mulberry (for silk production) and elm trees (for construction or tools) on their lands.\(^{84}\)

Due to its promotion of private land ownership, the Song initiated what Jiao Guomo refers to as the Forest Privatization Period (森林私有期) that would last until the end of the Qing. This meant that forestland in China Proper, where the majority of the population was ethnically Han, largely fell to private ownership.\(^{85}\) Ian Matthew Miller argues that this was in part a result of the rise of an interregional timber market around 1000 C.E., which challenged regulations that had worked well in preventing overuse in a highly localized market.\(^{86}\) Yet despite their divestment from managing the majority of the woodlands in their territory, late imperial Chinese states did maintain control over select pockets of forestland. Under the Ming Dynasty (1368 – 1644), the imperial household procured its timber primarily from the southwestern provinces of Yunnan, Guizhou, and Sichuan. Officials under the Board of Works 工部 supervised the timber’s extraction and transport to Beijing along China’s intricate network of canals. The entire process took five or six years to complete, and on average only 10 – 20% of the shipment survived the trip.\(^{87}\)

The Qing (1642 – 1911) took a different approach to managing forests and timber. The imperial household elected to secure its timber from private merchants. These

\(^{81}\) Typically described in Western accounts with the phrase “China’s sorrow” due to the devastating impact its frequent flooding has had on Chinese agriculture over the millennia

\(^{82}\) 焦國模。中國林業史。台北：新文化彩色印書館，1999，p. 75.

\(^{83}\) Ibid.

\(^{84}\) 陶泳、刘锡涛《唐代林业职官和护林诏令及造林活动》中国城市林业, 第 9 卷第 4 期 (2011 年 8 月), 44 – 47.

\(^{85}\) 焦國模，p. 75.

\(^{86}\) Ian Matthew Miller, “Roots and Branches: Woodland Institutions in South China, 800-1600.” Doctoral Dissertation, Harvard University, Graduate School of Arts & Sciences, 2015, p. 2.

\(^{87}\) 梁明武。明清時期木材商品經濟研究。北京：中國林業出版社，2012，p. 29.
merchants would purchase timber logged in Mongolia, Zhili, and Shanxi. Then the merchants would ship the timber to imperial wood factories, where they would be compensated based on the number and quality of the goods. Merchants were also granted licenses to tree farms by the state. Yet unlike the Han through Song Dynasties, the Qing did not directly oversee the management of these woodlands.88

Though the Qing, like the Song and Ming Dynasties, largely allowed forestland in the Han Heartland to devolve to local and private control, the Dynasty’s Manchu rulers did enact measures to conserve forestland in Manchuria. Han migration beyond the Great Wall was officially banned until the late nineteenth century. As historian Guan Yaxin has shown, the Qing divided the Northeast into three distinct zones (agricultural, pastoral, and forest) through the construction of the Willow Palisade. During the Shunzhi reign (1638 – 1661), the Qing planted a line of willow trees to demarcate each zone in order to restrict migration within the Northeast. Guan Yaxin argues that this was done in order to preserve the vast, unbroken, virgin forests that extended from the Qing’s border with Choson Korea.89 This region included Mount Changbai, from which both Manchu and Korean peoples were purported to originate. By preserving this region from Han and even Mongol incursion, the Qing imperial household sought to protect its cultural heritage.

Much has been written about the Qing’s efforts to conserve the Northeast. In his pioneering work on late imperial forest management, Nicholas Menzies argues that the Qing saw Manchuria’s forests primarily as a cultural resource meant to prove the imperial household’s continued commitment to Manchu cultural traditions.90 Recent work by David Bello has complicated this narrative. Bello similarly argues that the Manchu imperial household saw foraging culture as integral to Manchu identity. This was particularly important to the High Qing emperors of the eighteenth century, who grew concerned that Manchu culture was losing sway to Han Chinese customs. Preserving woodlands beyond the Willow Palisade thus served as a reminder to Sinicizing Manchus of the importance of maintaining traditional practices such as foraging and hunting.91

At the same time, Bello also points out that this does not mean that Manchuria’s woodlands were solely a “cultural resource.” Rather, the Qing also managed the economic resources that these woodlands could provide. For instance, officially sponsored logging occurred to a limited extent beyond the Willow Palisade. However, it was largely limited to local construction projects, namely shipbuilding in Jilin Township along the Songhua River. Han migrants from Shandong served as the lumberjacks who logged to support the Qing’s defensive measures against an expanding czarist Russia.92 As we shall see in greater detail in Chapter 3, the Northeast’s extreme climate meant that it was not feasible to transport large logs over vast distances. This, along with the cultural factors described above, limited the extent of deforestation until the late nineteenth century.

88 Ibid., p. 31.
89 关亚新《清代柳条边对东北地区生态环境的作用及影响》《史学集刊》第 6 期（2010），76－83。
92 Ibid.
Unlike the high modern states described in James Scott’s classic account *Seeing Like a State*, the Qing saw Manchuria’s woodlands for more than just timber. Banner troops were required to submit tribute in the form of forest products, including ginseng, pelts and pine nuts. Ginseng proved to be particularly valuable, as Han Chinese, Koreans and Manchus all prized it for its medicinal value. By the eighteenth century, the scarcity in wild ginseng led to tensions along the Qing-Choson border. As a result of this scarcity, Banners began to farm ginseng. In the nineteenth century, this evolved into a privatized system in which Han migrants also took part.

In short, all this shows that Manchuria’s woodlands were indeed managed by the Qing state, even as woodlands to the south were not. Furthermore, the economies in which the state, local Banner troops, and, later, Han men engaged supported the preservation of Manchuria’s forest cover. As we shall also see later in Chapter 3, Qing officials, trappers, and foragers all recognized that ginseng, animals, and fish all flourished in densely forested environments. The booming markets for Manchuria’s goods in the Han Heartland only continued to support these economies and, by extension, Manchuria’s forest cover. By the twentieth century, Han, Manchu and indigenous trappers and ginseng farmers in particular would work to preserve the Northeast’s woodlands against an emerging timber economy.

III. Traditions of Conservation in Imperial China

As we saw in the previous section, the attitudes of Chinese states toward woodlands varied across historical time and space. Generally speaking, the Han, Wei, and Tang states asserted claims over all of China’s woodlands, and even managed them directly. The Song, Ming and Qing states allowed woodlands to fall under the framework of private property and, with the exception of Qing Manchuria, exerted only a limited amount of control over them. As such, systems of conservation and extraction in the late imperial period were largely private.

Yet this does not mean that woodlands only succumbed to logging as a result of their privatization. The long traditions of logging in provinces such as Fujian and Guizhou reveals the extent to which logging communities engaged in reforestation practices to ensure the long-term sustainability of their industry. In fact, timber historian Liang Mingwu argues that reforestation practices became more prevalent as Chinese timber markets became more integrated in the late Ming and Qing Dynasties. The Miao and Dong ethnic groups first began to create man-made forests for the purposes of economic logging in the mid-Ming, when the forest cover in Jinping County 郏屏县 Guizhou Province started

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94 Bello.
96 蒋山。人参帝国：清代人参的生产，消费与医疗。杭州：浙江大学出版社，2015。
to become noticeably reduced. By the late Ming, Han timber merchants were actively participating in this market, exposing them to these practices. By the mid-Qing, reforestation had become standard practice in Hunan, Jiangxi, Jiangsu, and Fujian Provinces.\textsuperscript{98}

In addition to planting trees suitable for timber such as pines, common people planted jujubes and chestnuts to supplement the food supply, mulberry trees to support silkworms, and even elm and willow trees to strengthen the soil of irrigation canals.\textsuperscript{99} As a result, even in the nineteenth century Fujian Province remained an important source of timber for the Lower Yangzi Region. As Elena Songster has shown, the British eagerly sought to turn Fujian's port of Fuzhou into a treaty port so that they might use timber from the interior for shipbuilding. Fujian would remain one of China's major timber export sites well into the twentieth century.\textsuperscript{100}

Forests were not only valued for the material and economic benefits they provided. Private gardens, temples, burial grounds, local customs and banditry all served as means through which individuals, lineages, or groups could protect trees from logging. These were in turn supported by intellectual systems of conservation, including the texts of the Confucian and Daoist canons, as well as fengshui beliefs and practices. In the Qing, these were supplemented by a growing understanding of the “wilderness” of Manchuria as an economic and cultural resource. All this combined to create a diverse range of conservation practices upon which late imperial Chinese could draw in order to conserve local woodlands.

\textit{Classical Texts}

As has been suggested above, the social, economic and administrative structures of forest conservation were coupled with a more cultural understanding of the place of trees and woodlands in society. While memorizing the required passages for the civil service examination system, Chinese men of the late imperial period would have encountered a range of passages describing human relationships with trees and woodlands. For instance, Ian Miller has shown that Warring States philosophers envisioned the mythical-historical figure of Yu, who tames the woods, as complementary to the now more famous figure of Yi, who tames the rivers. In the case of Yu, taming the woodlands did not mean clear-cutting, but rather driving wild animals away so that mankind might safely harvest and maintain the trees.\textsuperscript{101}

Mencius similarly depicts tame woodlands as an essential part of a properly governed state. In one of the more memorable passages from the \textit{Mencius}, King Wei of Hui asks Mencius why more people do not want to live in his state. The king had, after all, spent precious resources to move his people when the river flooded, which is more than

\begin{itemize}
  \item \textsuperscript{98} Liang Mingwu, p. 37.
  \item \textsuperscript{99} Jiao Guomo, p. 216.
  \item \textsuperscript{100} E. Elena Songster, “Cultivating the Nation in Fujian’s Forests: Forest Policies and Afforestation Efforts in China, 1911-1937,” \textit{Environmental History}, Vol. 8, No. 3 (Jul. 2003), pp. 452 – 73.
\end{itemize}
can be said for his neighbors. Mencius responds by enjoining him to manage the land more properly. First, the people must farm at the right season so that grain will be in abundance. Next, the people must not use fine nets so that there will be a similar abundance of fish and turtles to eat. Finally, "[only when] axes and hatchets enter the mountain woods at the proper time, will [the state] never use up its timber 斧斤以時入山
林, 材木不可勝用也." Further in the passage, Mencius also acknowledges the place of animals, but only domesticated ones such as chickens, cows, and pigs. Waterways, agricultural valleys, and wooded mountains were thus all a core part of Mencius' utopian vision. However, every one of these elements should only be a part of the land inasmuch as they are "useful" to mankind. Mulberry trees, for instance, are specifically mentioned as valuable for their ability to house silkworms that produce silk.

As elite men were required to memorize the Mencius and other texts in the Chinese canon in order to pass the civil service examinations, the language these texts used permeated the Chinese administrative lexicon. In 1724, when the Yongzheng Emperor ordered the Governor-General of Zhili to have the people plant mulberry trees to clothe them, date trees to feed them, cypresses and tung trees to supply their material needs, and other trees to serve as firewood, he was acting in this tradition. His edict even directly cites the Mencius when it forbids "axes and hatchets [cutting down the trees] at the improper time 嚴非時之斧斤." In 1899, while seeking imperial support for a reforestation program in Shaanxi and Gansu Provinces, Governor-General Tao Mo begins by quoting this line from the Mencius. In 1911, just before the fall of the Qing, a borderland official in Jilin Province declared: "In ancient times in our China, the officials who managed the mountains, woodlands, rivers and marshes wielded the ax in moderation. The methods for administering [these regions] were also detailed."

As we shall see later in this dissertation, even in the Republican period, when memorizing the classics was no longer a prerequisite for governance, this Mencian language left a visible impact on official woodlands rhetoric. In 1915, while petitioning President Yuan Shikai to institute Arbor Day in order to extend China's forest cover, the Ministry of Agriculture and Commerce justified the program by referencing this passage from the Mencius:

In a time when axes should be used in moderation 方斧斤以時, holding a ceremony that emphasizes mountain forests is truly the method [that will have] the broadest effect. For example, strengthening dykes, eliminating drought, [and] eliminating

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102 JCS Mengzi: 1.3/1/30 – 1.
103 Ibid.
104 Jiao Guomo, p. 28.
105 陶模，《勸諭陝甘通省栽種樹木示》, 收入陳忠倚輯, 《皇朝經世文三編》 (浙江: 浙書局, 1899), 卷 35 戶政十四養民下, p. 34
106 Jilin Provincial Archives, 1-37-4228
107 我中國古昔代時虞衡掌斧斤以時管理方法亦詳
108 Jilin Provincial Archives, 101-4-413
[natural] disasters are all especially obvious examples of the benefits of forests as they relate most to the people's livelihood.\textsuperscript{109}

As such, the Ministry draws upon the \textit{Mencius} in order to portray itself as instituting the fundamental principles of Confucian benevolent government through the institution of a ritual designed to change the way in which officials and locals managed woodlands.

The Confucian canon was not the only textual source of knowledge for how to approach forests for late imperial elites. Classic Daoist texts – in particular the \textit{Zhuangzi} – pushed back against this Confucian notion of utilitarianism. In a passage entitled “Mountain Woods 山林,” Zhuangzi encounters a logger in the mountains:\textsuperscript{110}

Zhuangzi was walking in the mountains when he came upon a large tree covered in a dense layer of branches and leaves. A logger stopped beside it, but did not cut down the tree. Zhuangzi asked the reason for this, to which the logger responded: “It has nothing useful.” Zhuangzi said: “Because this tree cannot be turned into a good (不材), it will be able to live until the end of its days.”\textsuperscript{111}

Much to Zhuangzi’s surprise, the logger refused to cut down a large and beautiful tree, because its timber could not be made into a useful product. Zhuangzi delights in the irony of the useless thriving and the useful dying in a society that ostensibly values human talent and material utility (the homonyms \textit{cai} 才 and \textit{材}). However, that same day at dinner, Zhuangzi eagerly feasts on a goose that had been chosen to be slaughtered precisely because it could not cackle. His disciples point out the hypocrisy of Zhuangzi valuing the life of the useless tree over the useless goose. This, in turn, sparks a dialogue on the nature of utility in Chinese society that comments on both social relations as well as the human relationship with the environment.\textsuperscript{112}

This idea of trees as serving as a site of tension between the useful and the useless continues throughout the \textit{Zhuangzi}. In a section titled “Journeying Freely 逍遙遊,” the philosopher Huizi informs Zhuangzi that he has a large and useless \textit{chu} 楸 tree\textsuperscript{113} too large and crooked to be of use to a carpenter. Huizi likens Zhuangzi’s philosophy to this tree, meaning it is grand, but ultimately of no use to society. Zhuangzi retorts that just because it is not useful to the carpenter does not mean that the \textit{chu} tree is useless:\textsuperscript{114}

\begin{itemize}
\item \textsuperscript{109} 方斧斤以時, 戴禮重山林之典, 誠以林政一端。為用最廣, 許凡固堤防消水旱除災癘, 皆為森林之利益, 而於人民生計關係甚鉅, 其顯然者也。
\item \textsuperscript{110} ICS Zhuangzi: 20/53/6-7.
\item \textsuperscript{111} 莊子行於山中，見大木，枝葉盛茂，伐木者止其旁而不取也。問其故。曰：「無所可用。」莊子曰：
「此木以不材得終其天年。」
\item \textsuperscript{112} ICS Zhuangzi: 20/53/7 – 16.
\item \textsuperscript{113} Ailanthus altissima, a deciduous tree commonly known as the “tree of heaven.”
\item \textsuperscript{114} ICS Zhuangzi: 1/3/8 – 10.
\end{itemize}
Now you have a large tree and worry that it is of no use. Why not plant it somewhere
where there is nothing, in a vast and empty field? There you could stroll idly by its side,
or sleep freely underneath it. It would not die before its time at the hands of the ax.
There would be no one who would harm it, as there would be nothing to use it for.
What would there be to cause you distress then? 115

Simply put, Zhuangzi argues that trees can be useful for their ability to provide an escape
from the pressures of civilized life.

This argument for the inherent value of attaining freedom through wandering in
one’s sleep under a large tree (逍遙乎寢臥其下) stands in sharp contrast to Confucian
rhetoric. For instance, in a passage from the Analects, Confucius berates a disciple for
sleeping too much by using a wood analogy. “One cannot carve rotten wood 朽木不可雕
也!” Confucius raves. The lazy disciple, like a slab of rotten wood, should be tossed
aside so that the master can spend his time carving upon untainted wood.116

In the Mencius and the Analects, woodlands were valued solely for their material
and economic contributions to human life. Yet this does not mean that forests should be
logged to the point of depletion. Rather, Mencius states that successful states only log in
moderation and urge their peasants to plant mulberry trees in their fields. In the Zhuangzi,
by contrast, the living, natural world thus represents an escape from the harsh, utilitarian
expectations of human society. Though Zhuangzi never disputes that timber is useful, he
nevertheless sees trees as important for something other than their material function.
Over time, as we shall see in the following section, such faith in the importance of
woodlands as a site of retreat would gain institutional backing through officially sanctioned
monasteries.

Structures of Conservation: Temples and Sacred Peaks

Private conservationist structures became more formalistic as time passed,
populations grew, and woodlands came under greater strain. Ian Matthew Miller argues
that the gradual institutionalization of Buddhism and Daoism in China contributed to this
trend. Shortly after the fall of the Han Dynasty in the third century C.E., Daoist and
Buddhist monasteries arose in both rural and urban settings. While urban temples had no
specific special restrictions, rural monasteries drew upon preexisting traditions of
mountain worship and placed temples on sacred mountains.117

The mountain’s role as site of both sacred and secular seclusion has a long history
in China. Still, not all mountains were made equal. A cosmological hierarchy privileged
certain mountains above others, typically citing an ideal (or lack of an ideal) geomantic
position as the deciding factor for its spiritual and/or historical significance. The Five
Sacred Peaks 五岳 – Mount Tai 泰山, Southern Mount Heng 衡山, Mount Hua 华山,

115 今子有大樹, 患其無用, 何不樹之於無何有之鄉, 廣莫之野, 彷徨乎無為其側, 逍遙乎寢臥其下? 不夭
斤斧, 物無害者, 無所可用, 安所困苦哉!
116 ICS Lunyu: 5.10/10/1.
117 Miller, “Roots and Branches,” p. 23.
Northern Mount Heng 恒山, and Mount Song 嵩山 – corresponded to the five geomantic directions of East, South, West, North and Center. Beginning in the Warring States period, Chinese categorized them as the most important of China's sacred mountains.

During the Tang Dynasty, a separate group of sacred mountains emerged as Buddhist counterparts to the Daoist Five Sacred Peaks. The "Five Guardians 五镇"118 included Mount Yi 沂山, Mount Kuaiji 会稽山, Mount Wu 吴山, Mount Yiwulü 医巫闾山 and Mount Huo 霍山. Like the Five Peaks, each Guardian existed in a specific hierarchy that corresponded to its respective geomantic direction with the Eastern mountain at the top and the Central mountain at the bottom. By the Qing both sets of mountains contained both Daoist and Buddhist temples, reinforcing the idea that each mountain's sanctity derived in great part from both its position and lineage with a specific textual tradition, rather than its association with a specific religious tradition.

Woodlands played a vital role in the management of mountain temples. They served the dual purpose of creating a spiritual atmosphere as well as providing the raw materials monks needed to support themselves and their temples. Furthermore, their presence reinforced the cultural distinction between civilized, agricultural valleys and spiritual, forested mountains expressed in both the Confucian and Daoist canons. Ian Miller argues that monks of both the Buddhist and Daoist persuasions were highly adept at natural resource management, more so than even the lineages who are the focus of his dissertation. Buddhist monks in particular brought with them a set of woodlands management practices that had been developed in India. This, in turn, influenced the management practices prominent among elite estates. Nevertheless, the material needs of these temples for construction materials, paper, firewood, and even goods for light industry at times meant that they cleared their own woodland preserves, exacerbating deforestation problems caused by agricultural expansion. And yet, Miller also points out that there were also large temple complexes that managed their woodlands well enough to ensure a steady supply of timber. As such, though the uncultivated “wilderness” might have been receding further and further into the interior throughout the Tang, Song, Yuan and Ming Dynasties, this does not necessarily imply a dramatic drop in forest cover.119

Despite the fact that monks and temples practiced managerial forestry, the areas they controlled still retained spiritual significance for their believers. In the eyes of some late imperial Chinese, sacred peaks and the temples upon them served as sites for the preservation of a less orderly type of natural environs. The 1790 text A Descriptive Account of Mount Tai 泰山述记 reveals how death and the spirit world could serve as mediums through which literati understood and sought after wild spaces. The work's author, Song Siren (宋思仁 1730 – 1807), was a jinshi degree holder from the present-

118 Translating the character zhen 镇 into English is no easy task. The Great Dictionary of Classical Chinese 古代汉语大辞典 states that the Shangshu (尚书) defines zhen as a region's exceptionally large mountains (每州之名山殊大者，以为其州之镇). It also states that from the Northern Wei (386 - 534) to the beginning of the Song Dynasty (960 - 1279) the character also referred to a center where regional garrisons were stationed. Alternate definitions include "town," "stable," "tranquil" and "conquer." I feel the word "guardian" encompasses many of these meanings.

During his time as an official, he served in two main positions: the magistrate of Taian Prefecture 泰安府, which borders Mount Tai's northern face, as well as the grain transport administrator for Shandong province. In addition to his administrative duties, Song was an avid amateur poet and painter of trees and other plant life, not altogether unusual hobbies for eighteenth-century literati. In these respects, he embodied the traits of the stereotypical Confucian literatus outlined by Joseph Levenson in his argument on the "amateur ideal."

The preface of this work reveals that it is a highly personal text written so that Song could deepen the relationship between himself and his deceased father, who had also been a scholar-official. While describing his motivation to write *A Descriptive Account of Mount Tai*, he writes in the preface:

> When my late father served as a *ciyuan* for the officer of the Minister of Revenue, I would occasionally enter the capital to check on my parents' well-being. On the way, I would pass by Mount Tai. As the horses swiftly drew my coach, I was only ever able to gaze upon its verdant green, the color of jade, always too busy to make even a one-day trip. For many decades I did not once set aside my admiration. In the winter of 1787, I was transferred to Wenyang and, while on business, had an opportunity to do some climbing [on Mount Tai]. I enjoyed views from scenic spots and wandered about looking at everything. *In visiting the cliffs, springs, streams, and caves I came to know them.* Among these places there was a rocky valley, remote and obstructed, concealed by five-leaved chaste trees, a place unvisited by traveling sandals, and to which I also have returned many times.

In this passage, Song portrays a site that is deeply connected to the memory of his deceased father. Yet, as in the tradition of geomancy, he felt that a passing glance was not enough. One must visit the natural features (not just the sites that were of historical import) and even explore the "hidden places" off the beaten path in order to understand its wonder.

Song's introduction to the collection of maps he himself drew again emphasizes his belief that the knowable and unknowable merge together in the physical features of Mount Tai. The frequent references to the mountain's "mysterious" nature, the ghosts and spirits who dwell there, as well as the importance of the scenery itself, make it clear to the reader that one cannot understand Mount Tai without these elements.

120 山东省地方史志编纂委员会。山东省志: 泰山志。北京: 中华书局, 1993 年, 第 656 页。
122 宋思仁著。泰山书记 (1790 年)。汤贵仁、刘慧主编。泰山文献集成。济南: 泰山出版社, 2005 年, 第 10 页。
123 先司农公词垣, 时余入都定省, 往来过泰山, 马驰车迅, 仅得望其苍萃, 曾不暇作一日游, 仰止之心, 数十年未尝置焉。丁未东, 余移守汶阳, 尝因公登陆, 藉得历览形胜, 遍寻往躅, 崖泉啸洞, 可访而知也。然其间有岩壑幽阻, 荆榛蒙翳, 为游屐所未至者, 亦复不少。
124 Ibid, p. 11.
Mount Tai arises suddenly out of the east... In obstructing the central plains its features alone are mysterious. Embodying [the virtue of] the sages and delighting in the clouds and rain, it enriches the people and houses the ghosts and spirits. Changing ceaselessly, it is unsurpassed throughout the country and its [reputation] comes down through the ages. Ah, how one glance at the uniqueness of a single spring or a single stone can leave me beside myself! Thus, even gentlemen from the barren borderlands do not fail to know this famed mountain and appreciate it. However, everywhere there are closed mountain [passes] and remote, obstructed [places]. Though there are lifelong admirers who [put on] patterned sandals [to climb the mountain], none enter [these areas]! I have already described its beautiful scenery, now I will also draw maps to follow this first chapter so that I, the lowly one who loves antiquity, might present greater evidence of the beautiful cliffs and ravines in all their magnificent divine brilliance, so that the reader may more readily believe that Mount Tai is clearly [the home of] magnificent spirits.\textsuperscript{125}

As such, Song Siren views the textual tradition as merging together with a hidden spiritual essence in the form of this famous mountain. The natural features are made more beautiful due to their connection to ghosts and spirits, which were there due to Mount Tai’s particularly auspicious geomantic location.

At the same time, in the tradition of geomancy, trees helped ensure the stability of Mount Tai’s fengshui. The importance of keeping Mount Tai green during a period of rampant deforestation inspired official and elite movements to plant trees on its sacred slopes. Literati also sponsored reforestation efforts as an act of charity for the public at large, or on behalf of a particular temple and/or sacred mountain. In so doing, they drew upon a preexisting tradition of planting trees to extend one’s influence, such as the cypresses Han Wudi planted on Mount Tai. The famous Song-Dynasty poet and “renaissance man” Su Dongpo was a notable advocate of planting pines. He suggested that literati collect ripened pine cones from tree branches in winter, keep them in a dry place in their homes, and plant them in spring.\textsuperscript{126}

Acting within the scope of this tradition, our very own Song Siren sponsored a movement to "replenish the flora at the Heavenly Gate by planting pine trees" in 1794.\textsuperscript{127} As a story found on a Mount Tai stele and recounted by Brian Dott reveals, this effort was not the last. In 1796, the prefect Jin Qi planted cypresses in honor of a visit from the provincial judge Kang Jitian:

At this time [Jin] Qi [ordered that] 1,000 branches from cypress trees [growing beside] tombs be placed along the sides of the mountain's trail. His Honor [Kang] saw this and joyfully said, "All this cultivates and protects the mountain's

\textsuperscript{125} 宋时认为，文中的传统视文脉形式的山岳为著名的山岳。自然景观更进一步的因为其与鬼神精神而变得美丽，因为是由于由于泰山的特别的风云际会。

\textsuperscript{126} 郭时为。中国传统松柏文化。北京：中国林业出版社，2006，pp. 45 – 6.

\textsuperscript{127} 山东省地方史志编纂委员会，第 656 页。
numinosity 灵。Cannot this be done everywhere?" Following this, [Kang] contributed some of his salary to initiate an increase of 10,000 seedlings . . . In the spring of dingsi [1797], [after] performing rituals to honor Mount Tai along the lower twists of the Huan River, . . . more than 20,000 trees were planted.\textsuperscript{128}

In other words, these officials considered saplings grown from the branches of trees whose roots touched the tombs of the dead to be more capable of protecting the mountain's "spirit" or "efficacy."\textsuperscript{129} Their utility, to return to the initial debate between Confucians and Daoists, was not economic, but ideological and spiritual.

The wars and natural disasters of the nineteenth century would devastate these institutions of forest conservation. British missionary and author of the first English-language guide to Chinese forestry Norman Shaw noted that temples had once played a vital role in conserving woodlands, particularly in the more densely populated coastal regions of China. To support this claim, he cites an 1869 edition of the journal \textit{Notes and Queries} that declares:

\begin{quote}
In a thickly populated and highly cultivated country like China but few remnants are found of the original forests, and these few owe their preservation to the vicinity of monasteries, the sacred character of the localities, and the, in this case, very useful ideas of \textit{fungshui}; but the sentimental appeals of the priests and the poetical associations of place and scenery, and even the powerful considerations of \textit{fungshui}, appear to be on the wane and to be giving place to more utilitarian views; for in many spots where monastic influence has for centuries preserved larger or smaller tracts of forest land from denudation of their trees, ruinous temples stand with but a few isolated trees near, sparse mementoes of the luxuriant groves in which the buildings originally reposed in the depths of magnificent forests.\textsuperscript{130}
\end{quote}

The author of this account argues that Buddhist and Daoist monasteries have had a beneficial effect on China's forest cover, as evidenced by the "luxuriant groves" in which they resided. They maintained this forest cover by appealing to the "in this case, very useful ideas of \textit{fungshui}" as well as "poetical associations of place and scenery."\textsuperscript{131} As we saw in the case of Song Siren above, the associations of Mount Tai with the spirit world, beautiful scenery, and the ideals of fengshui all shaped his decision to conduct a reforestation project on the mountain.

Unfortunately, the loss of popular faith in monastic institutions, the author of the \textit{Notes and Queries} article claims, had a physical impact upon the landscape in the form of deforestation. He continues:


\textsuperscript{129} The character ling 灵, which Dott translates as "numinosity," could mean "spirit," "soul," or, as in the case of the words lingyan 灵验 or lingyao 灵药, "efficacious." See the entry in: \textit{The Great Dictionary of Classical Chinese} 古代汉语大辞典.


\textsuperscript{131} Ibid.
This destruction of trees during the last twenty years has been doubtless accelerated by the rebels who have overrun most of the country at various times. Their war-cry in Kwangtung was, “Destruction to the temples!” and though many have been rebuilt or patched up, the trees cannot be rebuilt like the houses, and many years would be required for them to acquire their former status as forests – if, indeed, the greater difficulty of protecting the young trees and the loss of sentimental ideas which formed the chief protection of the old ones will at all allow of their regrowth. Wherever the rebels encamped forests, small in extent but the growth of centuries, where they existed, were ruthlessly destroyed to afford fuel and timber to the marauders, and where they escaped the lost character of sacred groves and the deteriorated influence of monks now allow the sound of the axe to resound through the otherwise still and sombre forests. Thus in 1854 tall fir-trees on the White Cloud Hills near Canton were destroyed, and in the celebrated Lofau mountains many were cut.132

Our anonymous narrator thus attributes the loss in forest cover in Guangdong Province to the rise in rebel groups.

The rebels needed timber for fuel as well as other materials of war, which could include barricades, building materials, and even weapons such as bows, arrows and spears. Although Frederic Wakeman’s study of Cantonese rebel groups during the First Opium War (1839 – 1842) does not find much in the way of anti-monastic sentiment,133 the Christian-inspired Taiping Rebellion (1850 – 1864) was noted for its iconoclasm. Thomas Reilly’s recent work notes that Taiping rebels specifically targeted temples and their monks for destruction.134 Though he does not provide information about woodlands, it stands to reason that Taipings would have as little reverence for sacred woodlands as they did for temples. As historian Zhu Wei notes, the timber shortage in Taiping territory was considered to be so great a problem that the leaders of the Heavenly Kingdom banned the use of (wooden) coffins for burial.135

Following this detailed account of the Taiping destruction of woodlands in Guangdong, Norman Shaw draws upon other missionary accounts to argue that that the rebels “destroyed the woods in sheer wantonness”136 throughout southern China. Still, Shaw makes sure to remind his readers, some temples were able to conserve some of their woodlands into the twentieth century. His text includes a photograph of a temple on the Western Hills in Beijing that remains surrounded by trees, even as the hills in the background are bare (Figure 1).

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132 Ibid., pp. 17 - 8.
135 朱薇《浅析太平天国之禁棺葬》《广西师范大学学报哲学社会科学版》, 2003, 39 (3):118-120.
136 Shaw, p. 18.
Figure 1 An early twentieth-century forest preserve attached to a temple west of Beijing. Source: Shaw, facing p. 17.

A photograph later in the book taken outside of Ningbo, Zhejiang Province similarly depicts a temple surrounded by trees among barren hillsides (Figure 2). This suggests that some rural temples attached to major port cities under the protection of the coalition of imperial and Western forces were still able to maintain some of their forest preserves.
As we shall see in the following chapters, Republican-era forestry did include attempts to preserve and expand the forest cover of sacred sites. The Beiyang government’s First Forestry Experiment Station, for example, was located in Beijing’s Temple of Heaven, the site where Ming and Qing emperors would perform sacrifices for good harvests. The Second Forestry Experiment Station was located in Jinan, Shandong Province, making it accessible to Mount Tai. Local sites for the Republic’s ritualized ceremony for promoting forestry – Arbor Day – also included locations of spiritual significance. For instance, Jilin’s provincial-level Arbor Day ceremony took place on Mount Bei 北山 on the outskirts of Jilin City. This mountain housed several Han-style temples, including the eighteenth-century Temple to the King of Remedies 药王庙.

One local magistrate even used the ideological power of sacred sites to protect trees within their district. Pine historian Li Li notes a case from Pu County 蒲县, Shanxi Province in which the county magistrate used the spirits of the temple to protect the mountain’s pine trees. In 1915, Shi Yingling 石映棂 ordered a couplet attached to the rear
of Baishan Temple 柏山寺 that threatened ominously:137 “Fell my mountain’s woods and I will not say a word. If [I] harm your life, you [will find it] hard to escape.”138 According to local legend, the God of the Eastern Peak 东岳大帝, which was the official title of the god of Mount Tai, spoke these words to Shi Yingling in a dream mere days after his arrival to the county. Soon after the couplet appeared on the temple, a wealthy man ordered twenty cypresses chopped down in the middle of the night. By daybreak his head had swollen in size, leaving him in excruciating pain. Only when the wealthy man brought the logged trees back to the temple did his head return to normal size.139 This couplet and the legends behind it give expression to belief that temples, gods, mountains, and woodlands were all interconnected.

Nevertheless, I have found no clear-cut examples of rural monks taking an active role in forest conservation. Nor, with the exception of the case of Baishan Temple cited above, did most Republican officials rely upon temples to legitimize their reforestation efforts. As such, though Republican officials and elites would take a site’s degree of sacredness into account when deciding where to reforest, this was done without the help of monks.

Tombs

Daoism and Buddhism were not the only traditions that challenged the Confucian notion of trees and woodlands only being important for their material or economic utility. In her cultural history of pines and cypresses (songbai 松柏) in premorden China, Li Li notes that these two conifers held a high status in Zhou texts as funerary trees. Such trees had both a symbolic and a spiritual function. As evergreens, they served as symbols of the strength and length of the deceased’s power. Pines and cypresses also protected the tomb’s “dragon veins 龙脉” to preserve the health of the deceased’s soul.140 In China’s geomantic or fengshui belief system, dragon veins serve as conduits for spiritual energy in the earth, just as veins serve as conduits for energy (i.e. both blood and spiritual energy, or qi) in the human body.

As Ian Matthew Miller’s dissertation has shown, in the Song Dynasty burial grounds also became important structures that non-governmental actors used to protect woodlands beginning. The Song Code included restrictions on damaging trees or stones connected to the graves of even ordinary people. Ordinary people and lineages were thus able to make claims on woodlands that they did not have the property rights to by providing proof that they had maintained regular grave rituals on the burial site. Some even attempted to take advantage of these regulations by illicitly burying their deceased on a neighbor’s or even a landlord’s property.141 The Ming Dynasty expanded the rights to the woodlands located on ancestral grave sites, as it was keen to encourage the

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137 李莉。中国传统松柏文化。北京：中国林业出版社，2006，p. 135.
138 《伐吾山林吾不语，伤汝性命汝难逃》
139 李岗，马玉林《柏山庙古树传说》《山西林业》，1996（5）：30
140 Li Li, p. 46.

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reinvigoration of Neo-Confucian burial rituals now that the Mongol Empire no longer ruled China. Descendants were able to not only exert claims over the woodlands in proximity to the graves, but also those on the dragon veins connected to these graves.\(^{142}\) By the twentieth century, some rural localities would continue to visibly mark these veins with planted trees, which in turn could be the subject of property disputes.\(^{143}\)

The Kong Cemetery (lit. the “Kong Woods 孔林”) in Shandong Province is an example of these ideas in practice. It represents one part of a three-part memorial structure to commemorate the lineage of Confucius. Located in Qufu, Shandong Province, the “three Kongs 三孔” include the Kong Temple 孔庙, Kong Residence 孔府, and the Kong Cemetery. Though the Three Kongs have existed in Qufu since before the time of Confucius (551 – 479 B.C.E.), only after the fall of the Han Dynasty (206 B.C.E. – 220 C.E.) do texts begin to speak specifically of the trees in the Kong Cemetery. In the *Narration of Strange Tales* 《述异记》, Ren Fang 任昉 (460 – 508 C.E.) claims that the Kong Cemetery contained ninety-eight different tree species, chief among them oriental arborvitae 侧柏, juniper 圆柏, sawtooth oaks 麻栎, and Chinese pistachio 黄连木. The *Imperial Reader* 《太平御览》of the Song Dynasty (960 – 1279) explains that local residents claim that the great variety of trees stems from the fact that Confucius’ disciples came from many different regions. Each disciple planted a tree from his home region at the cemetery; over time these grew into a diverse forest.\(^{144}\) By the 1960s, biologists reported that the woods covered 200 hectares with many trees having been planted during the Kangxi reign (1654 – 1722). However, they only reported four different coniferous and “over nine” different deciduous tree species.\(^{145}\)

The cultural importance Han Chinese placed on having a great number of large trees strategically placed near ancestral graves is enshrined in the “Tale of Transplanting Trees 移树说.” Written by the Hunanese official and poet Li Dongyang 李东阳 (1447 – 1516), the speaker begins by bemoaning that it had been a long time since his family had planted trees on their ancestral burial site. One day, a (presumably) illiterate arborist 种树者 asks whether he would like the hundred large pine trees on a nearby plot transplanted to the tomb site. Our literati protagonist is skeptical, but agrees to let the arborist try. He describes the arborist’s process in great detail: with the help of laborers, he first digs holes all around the tree until he hits the roots. Then he wraps ropes around the roots and trunk, pulling until the tree falls to the ground. The roots are then kept moist with the use of mud and the tree is dragged to the new site on wooden planks. Using this method, the arborist is able to transplant a third of the trees at a time, placing them in three rows behind the tomb. Li Dongyang returns to check on the progress a year later

\(^{142}\) Ibid., p. 342.


\(^{144}\) 郭风平，安鲁，任耀飞. 《中国古代陵寝树木文化整理研究》. 北京林业大学学报(社会科学版) 第 9 卷第 3 期 (2010 年 9 月), p. 3.

\(^{145}\) 周光裕，叶正丰，龚明良. 《山东曲阜孔林的植被与土壤》. 山东大学学报(第四期 (1960 年) pp. 57 – 8.
and finds that 90% of the trees have survived transplantation. The full process required another two years to complete.\textsuperscript{146}

Much like the passage from the \textit{Zhuangzi} cited earlier in this chapter, the story then devolves into a discussion of more human affairs. The final section reveals that the detailed description of the arborist’s labor has served as an exhortation to Li Dongyang’s nephew to return to Beijing and complete his studies. The transplantation of large and entrenched trees to a tomb site symbolizes the importance of a proper environment to cultivating a scholar.\textsuperscript{147} All this suggests that tomb sites served as areas in which literate elites could observe tree-planting and transplantation practices conducted by a class of illiterate specialists. However, they were not expected to be in command of such knowledge. Much like my own summary of the text serves as a lens through which to understand historical Chinese thought and action, the tree-planting process in Li Dongyang’s text is more an odd curiosity than an exhortation to the reader to plant trees himself.

As the chapter on Arbor Day will later reveal, Republican officials relied heavily upon this particular tradition of planting trees on or near tombs when promoting reforestation. Arbor Day \textit{植树节} initially took place on the same day as Tomb Sweeping Festival \textit{清明节}. This was the holiday during which Chinese traditionally cleaned their ancestral tombs. Randall Stross notes that in early twentieth-century Nanjing, the local tradition for Tomb Sweeping Festival included planting willow branches on their lineage tombs. Yet few paid very much attention to the specific requirements that it be a “willow branch.” Instead, they eagerly took to cutting off branches from a nearby plantation established by the foreign missionary Joseph Bailie.\textsuperscript{148} In their guidebook for Arbor Day celebrations, several foresters under the aegis of the Ministry of Agriculture and Commerce drew upon this tradition when they encouraged locals to plant memorial trees to commemorate important events throughout the year.\textsuperscript{149} However, few seem to have taken to this new Republican tradition.

Under the Guomindang’s rule, Arbor Day was celebrated on Sun Yat-sen Memorial Day, or March 12\textsuperscript{th}. This holiday, like Tomb Sweeping Festival, commemorated the dead, though in this case Chinese were expected to commemorate only the death of the nationalist Sun Yat-sen, rather than their own lineages’ ancestral dead. The GMD merged the tradition of using trees as a form of commemoration with its reforestation projects by mandating that local governments plant “memorial forests 纪念林.” Though, like the Beiyang government’s memorial tree tradition, memorial forests could be planted in honor of any deceased person, the GMD most actively promoted them as a way to spread the commemoration of Sun Yat-sen from the capital in Nanjing to other parts of the Chinese nation.

\begin{footnotesize}
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\item \textsuperscript{146} 李东阳《移树说》《李东阳集》长沙 : 岳麓书社 : 湖南省新華書店发行, 1984, p. 218.
\item \textsuperscript{147} Ibid.
\item \textsuperscript{149} 古巢和韓安著。《清明植树節說略》北京：农商部, 1916 年三月。\textit{Discovered in the Jilin Provincial Archives (109-5-482).}
\end{itemize}
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It should be noted that these “Sun Yat-sen Memorial Forests 中山纪念林” represented only one of the types of reforestation project that the GMD engaged in. Nevertheless, it is one of the most intriguing due to its innovative take on the tradition of planting trees on burial sites. Like the trees in the Kong Cemetery described above, as well as other woodlands cemeteries such as the Meng Cemetery to commemorate Mencius and the Yuan Mausoleum to commemorate the Republic’s first president Yuan Shikai, these were to serve as a visible commemoration of the spirit of the deceased. However, unlike these cemeteries, the physical remains of the deceased were not present. Nor were they only present in the site of the Sun Yat-sen’s hometown in Xiangshan County 香山县, Guangdong Province. For instance, in 1937, Henan Province claims to have planted 273,726 trees as part of Sun Yat-sen Memorial Forests. These forests covered over 2,220 mu of land in approximately 101 separate jurisdictions, including rural counties and large cities such as Kaifeng. As such, these spaces extended the idea of the tomb forest to include ostensibly secular sites deprived of access to the physical remains of the deceased person himself, in this case Sun Yat-sen.

All this shows that, though the tradition of tomb forests was very much on the minds of Republican reformers, they were willing to adopt an ostensibly superstitious tradition to suit the needs of the modern nation-state. This was not altogether new. Ian Miller’s dissertation argues that Song lineages used tombs as a way to protect their woodlands from state control. Tomb forests thus also had an economic function in addition to their spiritual one. As we shall see in greater detail in the final two chapters of my dissertation, in the Republican period woodlands could also serve a site where the distinction between sacred and profane would remain blurred and confused.

Fengshui as an Expression of Environmental Knowledge

As Nicholas Menzies’ survey of scientific forestry has shown, few Chinese texts on forestry exist prior to the twentieth century. Yet, as we have seen above, this does not mean that Chinese had little understanding of woodlands, as per Elvin’s argument. Menzies argues that much of the imperial understanding of woodlands came from the perspective of agroforestry. Several texts existed in the late imperial period that outlined China’s major tree species as well as methods to plant and care for them.

The earliest text that specifically speaks to arboriculture is the *Qimin Yaoshu* 齐民要术 compiled around 535 C.E. It outlines various tree species grown for agricultural purposes, such as the production of dyes, spices, and medicines, though some attention is paid to timber. This was followed by the Yuan-Dynasty (1271 - 1368) compilation

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150 It has since been renamed after Sun Yat-sen and become a prefecture-level city called Zhongshan City中山市.
151 Approximately 362 acres
152 Academia Historica, Taipei, Taiwan, 001000006763A
153 Miller, "Roots and Branches."
155 Elvin, p. xvii.
Published around 1273, it contains much of the same information as the *Qimin Yaoshu*, with the exception of a more detailed explanation of methods for planting and caring for pine trees. Again, the focus is on trees that might be useful for a civilization rooted in agriculture, rather than for aesthetic or ecological purposes. Finally, the late-Ming *Encyclopedia of Agricultural Administration* provides a detailed account of Chinese trees, differentiating between northern and southern species with accompanying drawings. Again, as the title to this work implies, the focus is largely on trees as part of an agricultural system.\(^{156}\)

As Menzies also points out, agricultural ecosystems are structurally far simpler than forest ecosystems. Agricultural ecosystems usually consist of a few select species with human labor, fertilizers and irrigation filling in the gaps. Woodlands, by contrast, are significantly more complex. Numerous species, including insects, fungi, animals, shrubbery, and keystone species such as trees exist within the larger ecosystem, creating an evolving balance. Chinese certainly had no equivalent to modern ecology, which includes the study of microclimates and even microscopic organisms.\(^{157}\)

Nevertheless, Chinese civilization’s textual focus on agriculture does not mean that Chinese lacked any sort of ecological understanding of woodlands beyond that of the agricultural plantation. Menzies places the roots of this ecological consciousness in the writings of the *Classic of Changes* 易经, which divides the world into the twin forces of yin 阴 and yang 阳. These roughly correspond to dichotomies such as feminine and masculine, dark and light, hard and soft. By the late imperial period, even plants were divided into yin, or shade-loving, and yang, meaning sun-loving. Subordinate to this principle in the *Classic of Changes* are the five elements: metal, wood, water, fire, and earth. Finally, the *Classic of Changes* maintains that qi 气 is the force that binds the universe together. It runs through the earth as well as the living beings that inhabit it, including the human body. In order to maintain harmony within the universe, the forces of yin and yang and the five elements must all be in balance. Furthermore, the universe’s qi must not become obstructed. Menzies argues that this faith in universal balance represents a “premonition of ecology,” because it argues for the interconnectivity between human beings and all elements of the natural world.\(^{158}\)

It is also important to note that the universal theories advanced in the *Classic of Changes* applied to more than ecology. They also governed divination, construction, and even burial practices. Furthermore, Menzies fails to take into account the fact that it was only beginning with the Song Dynasty that many of these beliefs became prevalent throughout all levels of Han Chinese society. As Confucian elites responded to the rise in popular faith in Buddhist cosmology, Confucian philosophy evolved to incorporate more metaphysical elements. The writings of the Song philosopher Zhu Xi represent the crystallization of this Neo-Confucian philosophy. Zhu Xi was just as interested in examining the underpinnings of the universe as he was in describing the role of benevolence in creating the perfect state.

Daniel Gardner argues that Zhu Xi represents only one of the many Han elites who gained interest in the spirit world. Zhu Xi’s main contribution is to provide a language for

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\(^{157}\) Ibid., p. 644.

\(^{158}\) Ibid., pp. 644 – 6.
the spirit world that conforms with the classic texts of the Chinese tradition. In Gardner's own words, “while Chu’s influential philosophical system may in the end be 'rational,' analyzing the universe as it does in terms of li and ch’i, this does not preclude it from tolerating, indeed embracing a belief in the spirit world.”¹⁵⁹ In so doing, Zhu Xi crafted a language for natural phenomenon that would become commonplace in the late imperial world. He argues that the force of qi pervades the universe, exhibiting itself through phenomena that accord to popular understandings of “ghosts and spirits (guishen 鬼神).” For example, Zhu Xi offers the following examples of gui and shen in action: “Shen expands, kuei contracts. For instance, when wind, rain, thunder and lightning first issue forth, this is the operation of shen; as the wind dies, the rain passes, the thunder stops, and the lightning ceases, this is the operation of kuei.”¹⁶⁰ As such, the framework of qi and its subordinate forces of “ghosts and spirits” pervade the universe, helping to explain natural phenomena.

As Gardner notes, Zhu Xi was not “spiritualizing the natural world” or “naturalizing the spirit world,” because Zhu Xi himself simply would not have understood the spirit and natural worlds as distinct categories to begin with.¹⁶¹ Rather, Zhu Xi was establishing a framework that could serve as the basis for literati writings on the natural world. The late imperial civil service examination, which tested applicants on their understanding of the Confucian canon as interpreted by Zhu Xi, ensured that literate Han Chinese would gain familiarity with this framework.

The rise of a standardized set of rituals aided in the promotion of Neo-Confucian beliefs and practices among the broader public. In her historicization of Chinese death rituals, Evelyn Rawksi argues that both the continued pervasiveness of yin-yang cosmology as well as the fundamental elements of classical death ritual testify to the power of local elites to disseminate the beliefs of the classical canon to illiterate members of their communities. This dissemination process began in the Song Dynasty due to advances in printing technology, the growing ease of communication, as well as the Neo-Confucian desire to inculcate the illiterate with a sense of classical morality and ritual. By the Qing the beliefs and practices surrounding death had become so standardized that, in spite of a great deal of local and regional variation, a distinct ritual structure could be found throughout Han China.¹⁶² As the anthropologist James Watson explains:

If anything is central to the creation and maintenance of a unified Chinese culture, it is the standardization of ritual. To be Chinese is to understand, and accept the view, that there is a correct way to perform rites associated with the life-cycle, the most important being weddings and funerals. By following accepted ritual routines ordinary citizens participated in the process of cultural unification.¹⁶³

¹⁶⁰ Zhuzi Yulei 朱子语类, 3.1b11 translated by and cited in Gardner, p. 600.
¹⁶¹ Gardner, p. 601.
As we saw in the previous section, rituals surrounding death, as well as the construction and care of tombs, served as key ways through which elite Chinese interacted with woodlands in the late imperial period. Republican states would draw upon the unifying power of Chinese rituals, as well as this association between tombs and trees, to promote their own reforestation projects.

By the Qing, a growing class of religious specialists had emerged to advise individuals on birth, death and life, one type of which were fengshui masters 风水先生. These were literate men who relied on the cosmological framework advanced in the *Classic of Changes* as well as Zhu Xi’s own metaphysics to interpret their natural surroundings. Fengshui practitioners took into account topographic factors such as the slope of a hill or the path of a river, as well as a site’s connection to external phenomenon such as its relation to the stars, in order to determine its geomantic quality. They advised individuals or groups mostly within the context of where to place buildings or bury their dead.

James Watson’s anthropological study of funeral specialists in present-day Guangdong province shows that fengshui masters are placed firmly on the top of a hierarchy of specialists due to the high level of literacy required.¹⁶⁴ Fengshui texts of various schools abounded throughout the Qing. Texts from the Fujian School in particular encouraged geomancy specialists to conduct thorough personal investigations of each site using specialized magnetic geomancy compasses before determining the quality of its fengshui.¹⁶⁵ As has already been suggested from the continued use of the term "veins 脉" to describe a mountain’s geomantic underpinnings, fengshui masters viewed the site and the body as intimately connected to one another in that they were both microcosms of the universe. Fengshui masters were, to use Richard Smith’s phrase, "doctors of the earth," feeling the earth’s pulse much in the same way as a practitioner of traditional Chinese medicine does for the human body.¹⁶⁶ As was the case with their counterparts in medicine, geomancers could transform a site with ailing fengshui through human intervention, namely by altering the topography.¹⁶⁷ The addition or removal of trees served as ways through which this alteration could be achieved.

In the examples from previous sections, human modification of the environment transformed a site’s spiritual potency. However, as we see in other late imperial examples, human intervention could also transform an auspicious site into an inauspicious one. This belief in a site’s inauspiciousness was in part rooted in ecological observations. Anne Osborne’s study of New World crops in the hills in the eighteenth-century Lower Yangzi region shows that fengshui served as a lens through which local elites understood ecological imbalance. In the following passage, a local literatus named Chen Yingchao bemoans the negative effects of maize upon the area’s fengshui:

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¹⁶⁶ Ibid, p. 131.

¹⁶⁷ Ibid, p. 146.
Truly the benefit [of maize] is something of a moment; the harm is left to a hundred
generations. It is not possible not to ponder this deep and long. Now the mountains
and water have the same source. Mountains have grasses and trees; only if this
is the case are they able to store water. Those who plant maize first use the long
hoe to remove the grass and trees and dig up the roots; healthy sprouts are
plucked up and they loosen the earth veins . . . The national revenue and the
people's livelihood mutually suffer from this harm. The mystical power of the
mountains and rivers has been utterly destroyed. The fading of [the district's]
literary fame over the past several decades is only due to this. There is no greater
injury!168

To use contemporary scientific language, Chen Yingchao is pointing out that maize roots
destabilize the soil, as they reduce its iron and aluminum contents.169 Such destabilization
on a hillside can lead to erosion and flooding, especially when, as Chen Yingchao claims,
maize cultivators were clear-cutting the hills to make room for their crops. Some types of
tree roots strengthen soil stability, because their roots penetrate deep into the soil. At the
same time, Chen Yingchao also argues that the loss in forest cover in the hills results in
a decrease in the water table.

Such beliefs originate in part from mountain worship practices outlined in previous
sections. To protect one’s local mountain was to ensure the spiritual and material success
of local communities. But elements of late imperial fengshui practice can also be traced
back to Zhu Xi’s philosophy. For instance, one popular belief described in a 1916 text
claimed that dragons would emerge from the mountains in the form of flooding (出蛟)
if villagers did not take care to maintain the mountain’s forest cover.170 Although, according
to Gardner, Zhu Xi does not specifically discuss the mechanics of flooding, this idea does
have basis in Song Neo-Confucian thought. Zhu Xi argues that monsters, including
monsters of the mountain, (flat) earth and water, arise due to perversions in the area’s qi,
just as ghosts arise from disturbances in the dead’s qi. Human action could rectify these
perversions. For instance, Zhu Xi notes that a vengeful husband once haunted a village
after having been murdered by his wife and her lover. Only once the wife and lover had
been executed did the disturbed qi dissipate.171

In order to protect local ecology and preserve local qi, some communities
established fengshui woods 风水林, also known as fengshui forests. These were typically
placed on one or more mountains that local fengshui masters or villagers deemed to be
of greater spiritual importance, such as those where temples to local spirits had already
been established. Or, alternately, they could be placed alongside the village’s important

168 陳常鏵等修纂。光绪分水县志 (1906), 1.41b-42a. translated by Anne Osborne and cited in Anne
Osborne, “Barren Mountains, Raging Rivers: The Ecological and Social Effects of Changing Landuse on
235-6 (italics mine).
169 J.B. Reid, M.J. Goss, P.D. Robertson, “Relationship Between the Decreases in Soil Stability Effected
by the Growth of Maize Roots and Changes in Organically Bound Iron and Aluminum," European Journal
170 江西巡按使，〈劝植树木白话〉江西省农会报，第 8 期 （1916 年）。
171 Gardner, pp. 603 – 6.
Despite the great and rapid loss of forest cover in the nineteenth century, Republican foresters continued to note their existence in the twentieth century. A forest enthusiast noted that these were quite prevalent along Zhejiang’s border with Fujian and Jiangxi.\footnote{173}

The existence of fengshui forests would prove to be a challenging subject for modern foresters. On the one hand, in an age when foresters and statesmen worried about China’s timber shortage relative to other nations in the world, any forest cover was good forest cover. But on the other hand, it placed the forester in the awkward position of defending “superstition,” the very force that modernizing reformers firmly believed was detrimental to China’s development as a nation. In fact, in the 1930’s the GMD led extensive anti-superstition campaigns in the territory it controlled, attempting to reorient its citizens to more unified and modern rituals.\footnote{174} Even still, some came out in favor of conserving fengshui woods. One argument in favor of the Nationalist state taking steps to conserve fengshui woods bemoaned the loss of these trees to those who were eager to take advantage of the anti-superstition campaigns:\footnote{175}

Only recently has science made progress and superstitious doctrines begun to gradually break apart. Oftentimes, using the excuse of eradicating superstition, people log these woods with as much excess as they please. The average peasant, because he has logged in a headwater forest or a tomb forest, becomes drawn into a lawsuit. This situation is not uncommon. How can this be eradicating superstition, when all that happens is destruction and the profit from it?\footnote{176}

The author continues argues that the state should play a greater role in promoting the conservation of these woodlands to aid in academic research. At the same time, in preparation for China’s inevitable involvement in global warfare, it should also make use of these woodlands to construct the “tools for national defense”\footnote{177} As such, though he tacitly acknowledges the benefits that “superstition” has brought in terms of conserving certain areas of natural forestland, the Nationalist state should ultimately conserve and utilize these woodlands just like it might if they had been secular spaces.

As I will point out in this dissertation’s conclusion, recent work by Christopher Coggins has highlighted that the use of fengshui beliefs as a localized conservation method has persisted even into the twenty-first century. According to Coggins’ study, the practice of protecting fengshui forests remains exclusive to the southeastern provinces. During the Maoist years, such forests were renamed “scenic forests”\footnote{178} which had

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173 徐晓春《风水林应保存与利用之必要》《农报》第三卷第十期（1936年4月10日），第608页。


175 徐晓春，第609页。

176 惟晚近以来，科学进步，迷信之说，逐渐打破，恒有藉口破除迷信为由，任意滥伐林木，一般乡农，因砍伐水口林或坟墓林，引起诉讼之事，已屡见不鲜。此岂在破除迷信，实则有意摧残，而从中渔利也。

177 徐晓春，第609页。

178 Coggins, pp. 204 – 5.
\end{flushleft}
the benefit of making them appear to be secular in function. Since the reform period, fengshui forests have reverted to their original name. They continue to exist in similar locations as they did in the Republican period: remote areas far from urban centers where the pressures of development preclude their existence.

**Manchuria**

In China’s final dynasty – the Qing – the importance of a tree’s location to determining its utility was reinforced by non-Han traditions as well. When the Manchus gained control over Han territory, they instituted a ban on migration both to and within the area they considered to be their ancestral homeland. Historian Guan Yaxin has shown that the Qing used a line of willow trees known as the Willow Palisade to delineate three major regions: agricultural, pastoral, and foraging. Qing emperors hoped that migration restrictions would limit the ecological damage to woodlands caused by herders and farmers encroaching upon forested land.179 This allowed Manchuria’s woodlands to serve as a physical barrier to land invasion. Although a limited amount of logging did occur in Manchuria, in particular in and around Fengtian Province and Jilin City,180 this was largely done for construction or defensive purposes (e.g. gathering materials to build ships to defend the Qing from Russian invasion).

High Qing emperors placed a cultural value on Manchuria’s woodlands by projecting an image of foraging culture as integral to Manchu identity. Regular imperial hunts at Chengde and visits to forested sections of Manchuria served as symbolic reinforcements of the importance of the wilderness to Manchu culture in a time when an increasing number of Manchus were living in urban areas and adopting Chinese customs. This Romanticization of the wilderness beyond the Willow Palisade (bianwai 边外) was conveyed to a Chinese-reading audience through imperial poetry, histories, and other works on Manchu culture.181 Manchuria was the “land from whence the Dynasty emerged 国朝发祥之地.” High Qing emperors hoped that forests would allowed Manchus to retain that connection to their cultural roots and, thereby, a distinct identity as compared to Han Chinese.

Migration restrictions and transportation limitations aided in the imperial projection of a sacred and distinct "Manchuria," as they restricted the scope of Qing knowledge of the Northeast. This was particularly true in densely forested regions. Both the new and old willow borders shielded the densest of forestland from the influx of Mongolian pastoralists and southern Manchu agriculturalists.182 These limitations, combined with a limited textual tradition, meant that accounts of the Northeast were largely limited to the southernmost Fengtian region. The physical difficulties of navigating a region with few roads cutting through the dense foliage and frozen rivers for much of the year only further served to limit the scope of knowledge of the Northeast’s most densely forested areas.

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179 Guan Yaxin.
180 See Chapter 3.
181 Bello.
182 Guan Yaxin.
As such, traveler's accounts of the geography from beyond the new willow border, where Jilin resided, were taken from personal anecdotes of emperors and their officials traveling to sacrifice on Mount Changbai. Only the 1707 text *Record of the Willow Border* 柳邊紀略 potentially provides an alternative narrative, as it was written by the son of a Han exile to the Northeast named Yang Bin (楊賓 1650 - 1720).

Even in the limited examples this text offers we can see that the presence of large expanses of old forestland aided in the construction of an image of Manchurian land as distinct. This image described in geographies and poetry on the Northeast defied conventional Qing understandings of space, to the point that even Chinese vocabulary failed them. The *Record of the Willow Border* considered it necessary to introduce eighteenth-century readers to the peculiarities of the Northeast's topography through the establishment of a distinct lexicon:\(^{183}\)

Outside the [willow] border [a group of] many mountains that are filled with soil are called *ling* [Chinese for mountain range] ... those that contain stones are called *la* ... flatlands that have trees are called *lin* [Chinese for woods], such as the E Woods, Wangjia Woods, etc. The areas between the mountains where there are many trees is called *woji* 窩稽 or *aji* 阿機. The Shengjing Gazetteer transcribes this as *woji* 窩稽, the *Veritable Records* as *wuji* 兀集 and the *Qiujiaji* 秋笳集 as *wuji* 烏稽 ...\(^{184}\)

The *Record of the Willow Border* thus points to the idea of forestland outside the willow border as distinct from the rest of China (and, indeed, the world) through the introduction of the Manchu word *weji*. For forested space that conforms to Chinese expectations in its density, he uses the term *lin* 林, which would have been familiar to his audience.

The distinctness of the *weji* is reaffirmed at various other points in the text. And yet, for Yang Bin, this distinctness proves something to be feared rather than celebrated. In the preface, Yang narrates the story of his journey to Ningguta 宁古塔\(^{185}\) to join his father in mourning the death of his mother. Having traversed through strong winds, the grieving travelers found themselves in the dark *weji* surrounded by evil spirits and animals:\(^{186}\) "But upon entering the *weji* ten thousand trees covered the sky, [while] mountain elves and strange crows shouted and howled in response to the courage of us, the bereaved."\(^{187}\) In a similar vein, attempts by "charitable individuals 好事者" to tame the *weji* by cutting paths so that "a sliver of sky is revealed 乃漏天一線" are greeted by Yang Bin with grateful praise.\(^{188}\) Further in the text he continues to emphasize the strangeness of the *weji* compared to life in the Chinese heartland. In the final two volumes, he refers in several

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\(^{183}\) 楊賓。柳邊紀略（1707），第 1 卷，第 39 條。

\(^{184}\) 烏稽: 邊外多山載山土者曰嶺。。。載石者曰拉。。。平地有樹木者曰林，如惡林王家林之類。山間多樹木者曰窩稽，亦曰阿機，盛景志作窩集，實錄作兀集，秋笳集作乌稽。。。

\(^{185}\) Today's Ning'an City 宁安市 in Heilongjiang

\(^{186}\) Preface to 楊賓。

\(^{187}\) 入阿稽則万木蔽天，山魈怪乌叫嚎应答丧人胆

\(^{188}\) Yang Bin, vol. 1 no. 47
instances to the "people of the weji 窩稽人," who value common goods such as sheepskin over luxury products such as marten pelts, and even greet members of the opposite sex by kissing and embracing.\(^{189}\)

Though the image of the weji as a distinct topographic form pervaded other accounts of the Northeast, few shared Yang Bin's overtly negative perspective. The poetry of the Kangxi emperor, who paid visit to the region in 1671, 1682 and 1698, portrays the weji as filled with challenging terrain, the home of animals rather than of people. In "Traversing the Weji," the Kangxi emperor writes:\(^{190}\) "Pine woods black as night for over one hundred 'li',\(^{191}\) in rare vistas elk and deer like to roam. Rain and snow howl, can't touch the ground, crying crows and wild grass from spring to fall."\(^{192}\) In this poem the weji is a world apart, unwelcoming but not overtly hostile to the human world.

This echoes the tone of Gao Shiqi (高士奇, 1645 - 1704), who chronicled the Kangxi emperor's first visit to the Northeast in *A Daily Account of Serving the Emperor on His Visit to the East* 庾從東巡日錄. Though the trip to the Changbai region was aborted prematurely due to heavy rains, the retinue still passed through the small Lamu Weji 拉木窩集 along the Songhua River. According to Gao:\(^{193}\) "In Chinese weji means a great woods 大林. Inside it is filled with tall pines, as well as birches and oaks. Among the trees there are elms and lindens as close to one another as the scales on a fish. [The weji] curls around the mountains like a dragon."\(^{194}\) The weji is thus portrayed as so great and dense it is beyond southern Chinese comprehension.

Gao Shiqi's account includes references to nearby logging stations that provide the materials to construct buildings in the newly emerging settlement of Jilin.\(^{195}\) Pamela Crossley notes that, as a newly reestablished shipyard, Jilin Settlement's logging practices were closely tied to the threat of Russian expansionism; even by the Kangxi period Russian exploration had already caused some local tribes to switch allegiances and pay tribute to the Russian empire.\(^{196}\) As such, this logging is not moralized as detrimental for the weji as a whole. The vastness of the weji with its trees "as close to one another as scales on a fish" could not possibly succumb to the efforts of a few loggers.\(^{197}\) Gao Shiqi's portrayal of the weji is thus of an untamable force of nature at odds with the landscapes found in the homes of his Chinese-speaking audience.

Only with Qianlong do we see the weji portrayed in an idealized light. The Qianlong emperor passed through the Northeast's weji in 1754 on his way to worship at the Changbai Mountains. As his traveling party traversed the uneven terrain, he reflected

\(^{189}\) Ibid., vol. 3 no. 20 and vol. 4 no. 40.
\(^{190}\) 康熙皇帝《閱烏稽》《吉林通志》卷 6, 天章志, 第 84 页, 吉林文史出版社, 1986.
\(^{191}\) A distance measurement equivalent to a third of a mile
\(^{192}\) 松林黯黯百十里, 罕境偏为麋鹿游。雨雪飘萧难到地, 啼乌野草自春秋。
\(^{193}\) 高士奇。扈從東巡日錄 (1684), 下卷, 第 21 段。
\(^{194}\) 窩稽者, 漢言大林也。中皆喬松及樺柞, 樹間有榆椴鱗接, 虫蟠纓山。
\(^{195}\) This would later become what we now know as Jilin City, which is the namesake for Jilin Province.
\(^{197}\) 高士奇, 下卷, 第 21 段。
Upon the fundamental differences between the weji and the Chinese landscape to the South.\textsuperscript{198}

While crossing the mountain one thinks there is no sea, while drifting on the water one forgets land. In this way today I recognize the weji, a gathering of ten thousand of only one tree. Many times I have viewed the landscapes both south of the Yangzi River and north of the Great Wall, how can there be neither woods nor bamboo, but only sons and grandsons? The East first and foremost is endowed with a spiritual beauty; it most certainly must be rich in its groups of plant-life.\textsuperscript{199}

For the Qianlong emperor, the weji does not merely represent an oddity of the Northeast's topography, as it did for the authors of the texts above. Rather, its existence serves as a critique of land in the rest of China, where people outnumber trees ("how can there be neither woods nor bamboo, but only sons and grandsons?"). To wit, the emperor also purports that an abundance of "groups of plant-life" (emphasis mine) is necessary for land to not only be beautiful, but also have a certain spiritual quality. He returns to this theme later in the poem.

Yet this does not mean that the Qianlong emperor viewed the weji as a replicable or standardized entity. Further in the poem, he describes it as a place without parallel in the universe:\textsuperscript{200}

Since [the beginning of] the world [the weji] has existed. The tree of heaven\textsuperscript{201} and fusang\textsuperscript{202} cannot compare. Ah, standing still in the silent chaos of spirits and gods, not knowing which human generation has come to pass. Shadowed sun flickers with strange light, the god of the valley emerges in his dexterous ability. Painters cannot describe [the weji's] likeness, great artisans do not dare to fell it. As soon as I crossed into this profound wilderness my heart and soul were clear, of colors only true colors, of sounds only true sounds. Wanting to laugh at the distant flowers and trees of my humble abode on Ji [Mountain]. I touch brush to paper to serve as speech while I walk through the weji.\textsuperscript{203}

According to the Qianlong emperor, the weji is a place where gods come out to play, beyond even the capacity of painters to describe. Its power makes it resistant to the human desires, as even "great artisans do not dare to fell it."

The purity of the space and the clarity of spirit it brings stand in stark contrast to even the most miraculous of Han forested spaces ("the tree of heaven and fusang [from which the sun is purported to rise]"). Upon experiencing the weji, the Qianlong emperor

\textsuperscript{198} 乾隆皇帝《窩集行》《吉林通志》卷 6, 天章志, 第 91 頁, 吉林文史出版社 1986 年版。
\textsuperscript{199} 履山念無海, 泛水忘有陸。今茲識窩集, 萬匯惟一木。江南塞北覽概頻, 豈無林箐皆子孫。東方甲乙稟靈秀, 固應富有植類群。
\textsuperscript{200} 乾隆皇帝《窩集行》。
\textsuperscript{201} Toona sinensis, commonly found in southern and southwestern China.
\textsuperscript{202} Also known as zhujin 朱槿, Chinese hibiscus, or hibiscus rosa-sinensis. It is a large shrub that is also prevalent throughout southern and southwestern China.
\textsuperscript{203} 宇宙以來便有此，大椿扶桑非其比。定然默煩靈祇呵，不知遞閱人代幾。陰晴變幻光怪奇，谷神出巧能爾為。畫師未可形容擬，大匠詎敢斧斤斯。初経奧埌心神清，色惟真色聲真聲。欲笑嵇捨花木疏，點筆聊為窩集行。
now merely finds these southern spaces laughable ("wanting to laugh at the distant flowers and trees in my humble abode on Ji [Mountain]"). As it has existed since the dawn of the universe, the weji is not something that humans can create or replicate. The implication is that the weji has been gifted to the Manchu people, whose territory it can be found in. The weji can thus be seen as a uniquely Manchu space, intimately tied to a belief in the superiority of Manchu traditions that Qianlong sought to propagate.\textsuperscript{204}

Low population density and literacy mean that images of the weji come to us few and far between, taken in fragments from travelers' accounts and poetry. From these we can see a variety of images of the weji, from a place of danger to a formidable force of nature to a place of magic and beauty. Yet two overarching themes emerge from the din. First, knowledge of the weji largely came from local interlocutors and personal experience as opposed to the textual canon. That monolingual Chinese speakers knew the Manchu word for this space suggests that their knowledge was in part derived from local interpreters. As anthropologists and historians of science have shown in their work on European colonial knowledge production, local guides shaped the mapping and standardization of knowledge of non-European spaces. They guided anthropologists, botanists and cartographers to areas of local, cultural import, providing explanations for local phenomenon that accorded with their own frameworks of knowledge.\textsuperscript{205} In the absence of standardized maps and travel guides, Han Chinese travelers and Manchu imperial retinues proved similarly reliant on local sources of knowledge. That a weji represented a specific topographic entity in their accounts was in great part due to the fact that locals believed it to be one.

Furthermore, even the most personalized of accounts of noted Han sites such as Mount Tai included detailed citations of historical texts; a topographic form, in other words, was largely considered beautiful and important for its connection to a long textual tradition, rather than the author's personal experience.\textsuperscript{206} In the case of the weji, the relative lack of texts to support the authors' descriptions of the territory allowed them to rely primarily upon personal impressions. For example, we learn from Yang Bin that wicked mountain elves reside in the weji. But, as Yang was fortunate to escape their clutches, we will never learn exactly what fate he escaped. Nevertheless, in spite of the absence of traditional or standardized knowledge of the territory, the travelers above made no attempts to map the Northeast's weji, nor were weji the sole or even main focus of their texts. Rather, they represented merely another oddity of the Northeast's unique topography.

This brings us to the second theme of Chinese-language accounts of weji prior to the nineteenth century. All of the texts cited above describe the weji as unique to the Northeast. This impression is cultivated in part by the use of the Manchu word in and of itself, which is defined variously for the Chinese-speaking audience as "great woods,"\textsuperscript{207} a "pine woods"\textsuperscript{208} or an "area between the mountains where there are many trees."\textsuperscript{209}

\textsuperscript{204} Crossley.
\textsuperscript{206} See: Song Siren, p. 10.
\textsuperscript{207} 高士奇,下卷,第21段。
\textsuperscript{208} 康熙皇帝《阅乌稽》
\textsuperscript{209} 杨宾, vol. 1, no. 39.
Whatever the definition, the message that the *weji* were beyond the scope of Han Chinese experience comes through quite clearly. No effort, for instance, is made to compare them to the woods of the Chinese heartland. In fact, as the Qianlong emperor openly declares, even the revered southern Chinese “trees of heaven and the *fusang* cannot compare.” The *weji* was thus not considered a standard topographic form to be found throughout the world, as in the case of a mountain, a river, or, for the twentieth century, the “forest.” Nor could it represent a replicable model, something that humans could create to transform the barren landscapes found in southern climes, as the forest would become in the twentieth century.

As recent work by Jonathan Schlesinger and Jiang Zhushan has revealed, Qing material culture reinforced the image of Manchuria as a densely forested wilderness and a “world apart” from the Han territory below the Great Wall (关内). The integration of Manchurian territory into China’s consumer markets meant that Han Chinese were exposed to new goods. Specialized Qing texts such as *A Study of Ginseng* provided Han consumers with information about the locations, weather, and transportation of ginseng to Southern ports. Climate affected the look and feel of ginseng; gathering and transportation practices meant that one could only expect ginseng shipments from specific locations at certain times of the year. Such descriptions reinforced the image of Manchuria as an endless wilderness. Similarly, Schlesinger argues that wealthy Han Chinese gained an understanding of the Manchurian “wilderness” through the consumption of furs. In the course of purchasing these furs, they began to imagine Manchuria as a wild, unsettled territory filled with wild animals. As will be discussed further in Chapter 4, the reality of eighteenth and nineteenth-century Manchuria differed from this vision.

We will also see that this vision of Manchuria as the land of endless forests would continue into the twentieth century. In 1910, an article in the *Official Journal of Commerce* declared that: “In all the world, the forests that can be called the most mystical lie in Manchuria 世界最称神秘之森林其在满洲乎.” Late Qing and early Republican texts on forestry placed a great deal of focus on Manchuria, furthering the image of Manchuria as a lush frontier filled with forests that could benefit China (or, conversely, be stolen by greedy imperialists). An article on Manchuria’s emerging timber industry appeared in a Jiangxi agricultural journal in 1908. Articles on Manchuria’s timber industry would continue to be present in periodicals in the Han Heartland throughout the Republic. For instance, the earliest articles in the *Bulletin of Agriculture and Commerce* featured detailed descriptions of Manchuria’s emerging timber industry. In 1930 a Nanjing-based newspaper printed an article outlining the difficulties loggers faced

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210 乾隆皇帝《窩集行》
213 《神秘之森林》《商务官报》第 12 期 （1910 年），第 79 页
214 《调查报告：鸭绿江之森林(续十四期)》《江西农报》 第十五期，6－8 页
215 See, for example: 《满洲之森林》农商公报，第 2 卷第 1 册（1915 年 8 月），pp. 20 – 21.
in the Yalu River region. As we shall discuss in greater detail in Chapter 4, these would serve as efforts to integrate Manchuria’s forests into the framework of global forestry.

IV. Conclusion

By the end of the Taiping Rebellion (1850 - 1864), Han Chinese who wished to plant trees or “build forests” [i.e. reforest] could draw upon a long, varied and vibrant tradition of relating to trees and woodlands. As early as the Qin Dynasty, Chinese imperial governments saw woodlands as worthy of management. Early and medieval Chinese states managed these woodlands directly. However, late imperial states allowed China’s woodlands to largely devolve to private control, choosing to focus their efforts on taxing agriculture and maintaining other government monopolies, such as that over salt. This allowed a booming, private trade in tree and forest products to emerge. Han and non-Han Chinese alike continued to grow and manage trees for agricultural (e.g. mulberry) or economic (e.g. fir) purposes. If one knew where to look, textual evidence for these practices did exist in the form of agricultural guides and descriptions of logging techniques catalogued in gazetteers. However, as the actual practice of planting trees and logging fell to the illiterate more often than not, little incentive existed to make this knowledge an active part of their knowledge base, unless one happened to be a magistrate in a logging district or one suffering from ecological disaster.

Literati from across China were more likely to encounter theories of woodlands management from canonical texts such as the Mencius, religious pilgrimage, or through the management of ancestral tombs. The Chinese canon emphasized the necessity of preventing excessive logging to securing continued access to the material goods timber provides. Such texts emphasized a division between the primarily agricultural plains and the wooded mountains.

At the same time, Daoist texts resisted this narrative of viewing woodlands as purely important for their economic function. The rise of monastic Buddhism and Daoism meant that these beliefs were supported by religious institutions that in principle favored conservation, even if they did not always adhere to these standards in practice. Such temples were mainly located in the mountains, drawing upon and reinforcing mountain worship practices. In other words, they reinforced the classical ideal of the division between the wooded, sacred mountains and civilized, agricultural plains. Literati who planted trees on sacred mountains such as Mount Tai were doing so under the belief that sacred spaces must be forested. Geomancy (or fengshui) practices further connected the condition of these sacred spaces with the fate of human affairs. If the trees protected Mount Tai’s dragon veins, then the country would be prosperous and at peace. The same was true of regional sacred peaks, ordinary local mountains, and lineage burial grounds.

Finally, concepts of the “wilderness” did exist in Qing China. However, these were not widely glorified in and of themselves to the extent that they were in the Euro-American

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216 GMD Party Archives, General Collection, 443/7.60(6)
colonial context. In the Han Heartland, wildernesses were located on sacred peaks, where they also tied into spiritual and fengshui beliefs. In Manchuria, the wilderness was associated with the history of the imperial household and a (partly imagined) traditional Manchu foraging culture.

As we can see, without the standardizing influence of the state, approaches to woodlands management became highly localized. Interactions with woodlands could vary in great part by local climate, economy, history and culture. Woodlands on Mount Tai were thus qualitatively different from those in a timber plot in Guilin, the “sea of trees” in Jilin, a tomb in Jiangsu, or a mulberry grove in Zhejiang. Non-economic woodlands typically relied on an enduring belief in the site’s religious or spiritual importance for their existence, whether this was via a temple or local fengshui beliefs.

The localized and “spiritual” nature of this knowledge was a problem in the changing context of the late nineteenth and early twentieth centuries. In the final years of the Qing and the early years of the Republic, central officials would come to see China’s overall lack of forest cover as a problem of national dimensions that would require a standardized approach. In this context, Japanese and Western forestry institutions, both administrative and educational, proved appealing. Yet standardizing a Chinese approach to woodlands across diverse climates and ethnic contexts would prove difficult in practice.

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Chapter 2: Timber! The Growth of a Modern Chinese Obsession in Global Context, 1842 – 1915

I. Introduction

In the nineteenth and twentieth centuries, China existed in a world that was predicated upon the consumption of large quantities of timber. The nineteenth century witnessed a revolution in the ways in which human beings traveled and communicated with one another. The advent of the railroad meant that people and goods could traverse great distances at speeds faster than ever before. The telegraph and, later, the telephone meant that near instantaneous communication could occur over vast distances. The popularity of these technologies meant that they were rapidly adopted throughout the world. In 1870, the United States had 60,000 miles of railroad track. By 1890 this number would rise to 200,000, and by 1910 the United States would have 357,000 miles of railroad track. What united these technologies was their dependence on vast quantities of timber. In the United States alone, railroads utilized 445 thousand acres of timber to produce 89 million railroad ties in the year 1890. This number would rise to 620 thousand acres of timber and 124 million ties in the year 1910, representing approximately one-fifth of the annual timber harvest.

At the same time, China also existed in a world that stood on the verge of a timber shortage. Or, at least, as Sherry Olson’s book on the railroad’s use of timber in the United States argues, the world imagined itself on the verge of a timber crisis. Despite the fact that a widespread timber shortage never occurred, conservationists continued to fear the consequences of the industrial harvest of timber. For example, in January 1905, the American conservationist President Theodore Roosevelt declared:

Wood is an indispensable part of the material structure upon which civilization rests, and civilization makes continually greater demands upon the forest. We use not less wood, but more. For example, although we consume relatively less wood and relatively more steel or brick or cement in certain industries than was once the case, yet in every instance which I recall, while the relative proportion is less the actual increase in the amount of wood used is very great . . . If the present rate of forest destruction is allowed to continue, a timber famine is obviously inevitable.

In this same speech, Teddy Roosevelt announced that the United States should establish bureaucratic structures for the conservation and “efficient” management of the forests in

219 Ibid, pp. 4, 12.
220 Ibid, pp. 2 – 3.
its national parks.\textsuperscript{222} The following month, President Roosevelt established the U.S. Forest Service for this purpose.

This fear of a global timber crisis permeated the emerging literature on China’s forests in the early twentieth century. British missionary Norman Shaw begins the introduction to his 1914 survey of Chinese timber trees by describing the “world timber famine:”

Since the closing years of the nineteenth century economists have drawn attention to the rapid depletion of the world’s timber supply through reckless cutting and wasteful methods of distribution, and those who have studied the question closely go so far as to prophesy a world timber famine in the course of a few decades unless steps are taken at once to find a remedy.\textsuperscript{223}

Similarly, in their 1928 guide to the timber industry in Jilin Province, the Japanese-owned South Manchuria Railway begins by describing a 1900 French study that predicted a global timber famine within fifty years. It then claimed that the world was losing 1.7 billion koku\textsuperscript{224} of timber each year. Japan, they continued, needed an extra 60 million koku\textsuperscript{225} of timber to make up for its own timber deficit. The Japanese nation had no other choice but to log in timber-rich locations like Jilin Province, no matter what type of resistance they encountered.\textsuperscript{226}

As is suggested by these examples, much of this literature was largely written in English, Japanese, and even Russian, as opposed to Chinese. This literature praised or derided China on the state’s ability to control forest cover and manage its timber markets. Shaw praises the Republican state for “the awakening of . . . national consciousness” and the “desire to develop China’s [timber] resources for the good of her own people.”\textsuperscript{227} American forester John Reisner also sang the Republic’s praises for the state’s involvement in promoting forestry. “After centuries of neglect, China last year spent about a quarter of a million dollars in forestry work – planted about one thousand nurseries, deforested about one hundred thousand acres of otherwise useless land and produced about one million young trees.”\textsuperscript{228} The South Manchuria Railway, by contrast, bemoaned the Republican state for paying insufficient attention to reforestation.\textsuperscript{229}

However, as we learned in the previous chapter, Chinese largely managed woodlands on a local and private level during the late imperial period. This meant that, unlike their counterparts in Western civilizations, late imperial China lacked extensive

\textsuperscript{224} Approximately 306 billion liters.
\textsuperscript{225} Approximately 10.8 billion liters.
\textsuperscript{226} 南滿鐵路調查課編。吉林省之林業，湯爾和譯。上海：商務印書館，1930 (1928)，pp. 1 – 2.
\textsuperscript{227} Shaw, p. 15.
\textsuperscript{229} 南滿鐵路調查課編, pp. 46 – 8.
government involvement in categorizing and controlling woodlands for the primary purpose of extracting timber. New technologies, frequent warfare, the rise of global timber markets, and cultural interactions with the foreign powers would change this. By the end of the Republican period (1911 – 1949), national elites and officials had made concerted efforts to unify and standardize the way Chinese conceived of and interacted with forested space. They adopted a new framework for managing woodlands that would more align with global scientific and administrative forestry techniques. The “forest” – or senlin 森林 – privileged trees as an economic, aesthetic, and ecological resource.

In the end, the increased demand for timber both in China and abroad proved paramount to the rise in Chinese national interest in forests. Shipyards and rapacious timber merchants, railroads and timber-hungry peasants, hopeful elites and “covetous觊觎” foreigners, telegraphs and aspiring officials all helped foster a society in which the hunger for timber seemed insatiable. Telegraph, railroads, and shipyards were perceived to be necessary to defend China’s territory from being “carved up like a watermelon” and divided among foreign powers.

Shellen Wu’s recent work has noted a similar trend in China with regard to another natural resource: coal. She argues that Western impact and scientific modernity dramatically reshaped the way Chinese interacted with coal, because they now saw it as a resource necessary to survive within a competitive global industrial environment. Its use was required as a form of energy in new technologies, namely the steamship and railroad engines, supposedly replacing timber’s function in society. Coal was thereby transformed from a simple toxic mineral to a national resource, one that required foreign, scientific knowledge to procure efficiently. And yet, aside from this vague idea of a resource and the intensification of coal mining, greater reliance of coal seems to have made little impact upon the way Chinese conceived of themselves, the land, or the space they inhabited. At least, it had not yet done so by the 1920’s, when her work reaches its conclusion.

The abundance or dearth of forested space, by contrast, would become the subject of intense debate, shame, anxiety, and hope. The need for timber and its byproducts to supply railroad ties, utility poles, bridge beams, rifle stocks, gunpowder, furniture and many other materials of modernity sparked the interest of Chinese national governments in better understanding this resource. However, disparities in forest cover, foreign ridicule, cultural valuations of trees, and the perceived ability of trees to penetrate (or remain absent from) nearly any space made the twin “forest problem 森林问题” and “timber crisis 木材危机” of national, regional, and even personal interest. Far from being pushed to the sideline, forests came to the cultural forefront. They became the subject of parades, memorial rituals, educational materials, government subsidies, propaganda banners, and elite charity. As we shall see in the following chapter, the forest became a panacea for all of China’s problems, be they economic, cultural, environmental, or aesthetic.

The forest, thus reified, challenged Chinese to think of forested space as existing beyond the boundaries of traditional understandings. No longer just the preserve of the

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mountain, the garden, or the roadside, trees could belong anywhere and everywhere, even in places where the natural environment has time and time again proven averse to their presence. Moreover, it encouraged Chinese in the Heartland to value the densely forested periphery, in particular that of Manchuria, or the Chinese Northeast. This reinforced and reinvigorated a belief in the periphery’s Chinese essence, or its necessity to Chinese essence. Conversely, Japanese military interests would be able to use this ecological difference between Manchuria and the Chinese Heartland to make the opposite claims when they founded the state of Manchukuo in 1932.

This chapter will borrow in part from Shellen Wu’s framework of the Chinese “national resource” within the context of a globalizing modernity. It will show that the placement of timber within this category by global nation-states encouraged Chinese states to reevaluate their administrative priorities with regard to natural products. Like Wu’s work, later chapters will also show that foreign expertise was essential to creating new frameworks for understanding and managing these resources. This chapter will also include foreigners, namely Japanese, Russians and Americans. However, it will focus more on foreign eyes, foreign desires, foreign technologies and foreign actions than their scientific knowledge. Neither foreigners nor their forestry practices in and of themselves drew national attention to the timber crisis. In order for the forest to gain such prominence, it needed to dovetail with Chinese dreams and Chinese fears. Even where it did, as we shall see in Chapters 5 and 6, Chinese people strove to make the forest their own. The “forests” created during reforestation projects drew heavily on traditional reforestation and forestation patterns, privileging mountains, official gardens, roadsides, temples, and graves. Yet they also expanded beyond these parameters, creating memorial groves and reforesting valleys. The introduction of the forest to China was a conservative yet innovative process, rooted thoroughly in a global and national desire for timber as an economic and military product.

III. Seeing Like the Qing State: Impressions of Landscape, Resources, and Defense

From 1878 to 1880, Wang Jiabi (王家璧, 1814 - 1883) had the misfortune of serving as Fengtian District's educational commissioner in the city of

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234 These and the following biographical details about Wang Jiabi can all be found in the historical biographical database compiled by the Institute of Modern History, Academia Sinica, Taipei, Taiwan: http://archive.iph.sinica.edu.tw/ttscgi/ttsquery?0:0:mctauc:TM%3D%A4%FD%AEa%C2z (accessed September 22, 2015).
Wang hailed from Wuchang, which, when compared with the Manchurian frontier, was simply a Southern Chinese city like many others; it had mild winters, a strong network of learned elites and a globally integrated marketplace filled with luxury goods. Shengjing, by contrast, had a bustling trade in marten furs. For years, Wang suffered through the scalding heat of Manchurian summers watching the boats come and go along the Hun River, waiting for a book, a letter, a swath of silk, or anything that might connect him to the outside world. What the river briefly gave, it quickly took away. In autumn, the river froze, forcing Wang to solely rely on local goods and company to survive the long winter. In spite of its location in the sea of trees, in one respect Shengjing was just like many Southern cities of the nineteenth century: its reliance on its river system for trade and transportation was absolute.

Though the people of Shengjing relied heavily on forest products for shelter, warmth, transportation and communication, the few resident literati like Wang Jiabi had little interaction with the woodlands that existed beyond the city limits. Prior to the nineteenth century, most of this territory belonged to weichang, or land allotted to support local Banner, or military units. Use of this land was strictly forbidden to outsiders. However, even in the first half of the nineteenth century largely impoverished Han Chinese migrants had begun to undermine this system. In 1848, after discovering that much of its land had already been illegally reclaimed, Fengtian became the first Manchurian territory to abandon this policy of forbidding its land to migrants.

Forested land – inasmuch as it still existed among the rush to claim Fengtian's land for agriculture – served as a space for Han pioneers, Manchu Banners, and bandits to eke out a living. This fact, combined with the forested zones' lack of connection to the literary world of the Qing intelligentsia, provided little incentive for elite men to leave the city. As such, Wang Jiabi's Manchuria was, like the rest of China, not a land of forests, but a land of mountains and rivers.

In 1880 Wang Jiabi gladly answered the imperial call to return to the Han heartland to serve as the Vice-District Head of Shuntian District in Beijing. Fortunately, those years spent on the frontier were not in vain. Upon his arrival in Beijing, Wang jumped at the chance to use his Manchurian expertise to his advantage. The Empress Dowager Cixi made it known that she had grown concerned over recent events in Russo-Chinese relations. Alarmed by the growing military economic power Great Britain and France wielded along the Chinese coast, the Russian Empire began to sending expeditions south toward the Amur River in hope of finding a route to the sea. By the

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235 Contemporary Shenyang
237 衣保中。东北农业近代化研究。吉林市：吉林市新华微机，1990，第 14 页。
1850s, Russians were the predominant ethnic group in the Chinese territory north of the Amur.\footnote{Joseph Fletcher, "Sino-Russian Relations, 1800 - 1862," in Cambridge History of China, Vol. 10, Late Ch'ing, 1800 - 1911, Part 1. New York: Cambridge University Press, 1986, pp. 318 - 50.} In 1858 the Treaty of Aigun resulted in the concession of this territory to Russia.

In the same year, Russia received greater trading rights in the Treaty of Tianjin, to be confirmed in the 1860 Convention of Beijing. Russian involvement in the Dungan Revolt (1862 - 1877) along China's northwestern border (Xinjiang) revealed the Empire's continued desire to expand southward to compete with British influence in Tibet. China would not be exempt from this so-called "Great Game" between Russia and Great Britain for global control over Asia's land resources.\footnote{See: James Hevia. English Lessons: The Pedagogy of Imperialism in Nineteenth-Century China. Durham: Duke University Press, 2003, pp. 156 – 84.} As each year passed, it seemed that more and more Cossack traders traveled to the Amur River region in search of fur and timber. Should the Qing Court be concerned that the Russian Empire will seek to claim even more of Manchuria for itself, the Empress Dowager wondered?

In response, Wang eagerly memorialized the throne. Wang agreed that the events in Xinjiang did not bode well for the security of Manchuria, as Russia's inconvenient geographic location proved a powerful motivation to expand southward.\footnote{03-6014-066 (Guangxu 6.5.3 [June 1880]). First Historical Archives, Beijing, China.} Recently I have heard that Russia still holds my country's Yili [River Basin] and is making many demands and that [the results of] the war is still not a foregone conclusion. Your lowly servant has humbly heard that this country's territory is narrow from North to South and broad from East to West. This has brought it much inconvenience. Yet, [as] it is linked with my country's borders in many places, I worry they will not abandon themselves to fate, but will simply rush through [our] borders ...\footnote{03-6014-066 (Guangxu 6.5.3 [June 1880]). First Historical Archives, Beijing, China.}

Just as geography motivated the Russian push southward, so could it shape Russian movements in Manchuria. For reasons he does not fully explain, Wang doubts the plausibility of an attack through the grasslands that cover western Manchuria. Instead, Wang warns that they are likely to seek to come down through Jilin. This heart of Manchuria that he describes is filled with rivers and mountains. No mention is made of the forested land that covered this region:\footnote{03-6014-066 (Guangxu 6.5.3 [June 1880]). First Historical Archives, Beijing, China.}

Jilin guards the center of the Three Eastern Provinces. The Songhua River is the most vulnerable to attack. This river originates in Mount Changbai and travels over 1,000 li through Jilin and Boduna where it flows to meet Heilongjiang and then flows into the ocean. There is no need to go overland through Heilongjiang Province to travel by boat into the Songhua River to Jilin ... Heilongjiang is separated [from the rest of the Three Eastern Provinces] on the outside of the Songhua River. Although one can pass through the grasslands, why would [the
Russians] dare enter [this territory]? This would force them to hurry along the western side to Shengjing [Shenyang].

The river, in Wang Jiabi’s narrative, supersedes all other forms of topography.

Unlike the grasslands, the mountains, or the nameless trees, the river had a life of its own. Its wild waters had already prevented previous groups of Russian explorers from carrying out their mission in the Manchurian interior. The Songhua River’s waters, Wang claims, were simply untamable:

I heard that [the Russians] once used small steamboats to enter the Songhua River to explore the water and buy grain. On many occasions, they failed to use good sampan boats. The long dragons quickly struck [rocks] and the water braves could not conquer [the river].

Wang Jiabi concludes this imperial lesson in Manchurian geography by suggesting that the Empress Dowager employ Southern Chinese hydraulic engineers to tame the Songhua. Only once they had made the river navigable and fortified it with soldiers could the Qing secure the territorial integrity of the Northeast.

The motivation for analyzing and understanding Manchuria’s geography may have sprung from the new threat of Russian invasion, but the hierarchy of space Wang Jiabi adheres to is decidedly an old one. As early as the Han Dynasty (206 BC - 220 CE) many Chinese dynasties have seen their ability to control the rivers as symbolic of the effectiveness of their rule. Though the nature of how officials perceived and managed canal projects changed over the course of nearly two millennia, the reverence for mountains and rivers as essential to political rule had not. For historian Karl Wittfogel, this connection between hydraulic management and imperial bureaucracy was so intimate that it allowed Chinese emperors to exercise complete and despotic control over all in their territory.

Though this theory of "oriental despotism" is widely discredited today, the primacy of the river in Chinese thought as well as its economy has been recognized by historians of China in other ways. Mark Elvin has declared that the imperial Chinese reliance on the management of rivers and canals formed the basis for its coercive organization of Chinese of all social classes. Kenneth Pomeranz has convincingly argued that the Grand Canal served a fundamental role in the late Qing economy. The wars, rebellions and flooding of the nineteenth century helped bring about the downfall of this longstanding network of canals, thereby hindering longstanding connections between the coastline, the

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244 吉林扼东三省之中松花江最为要害。此江发源长白山行千余里过吉林及伯都讷而下流会黑龙江下流入海。由黑龙江下流入松花江至吉林不必经由黑龙江省陆路也。。。黑龙江省隔在松花江外。虽有草地可通何敢近。逼致其西趋盛京。
245 03-6014-066 (Guangxu 6.5.3 [June 1880]). First Historical Archives, Beijing, China.
246 A type of boat.
247 闻彼曾用小轮船入松花江探水买粮而去者。数次此非有善用舢板。长龙快蟹（触？）水勇者不能制胜也。
249 Elvin.
interior, and the southwest periphery. The price of canal transport had been rising in the early years of the nineteenth century, much to the annoyance of elites and dismay of the soldiers tasked to guard the canals. The 1852 – 1855 flooding of the Yellow River caused it to shift its course, making repairs to the Shandong leg of the north-south Grand Canal expensive during a time in which military spending was on the rise.\textsuperscript{250} Interior provinces and regions were adversely affected due to this shift. Henan Province’s canal expenditures fell from 1,500,000 liang per year during the Daoguang reign (1820 – 1850) to 423,000 by the end of the Qing.\textsuperscript{251}

This proved problematic in the context of the late Qing imperial timber supply. The imperial household sought to regain ideological prestige by rebuilding the palaces and temples that had either fallen into disrepair or been ransacked by foreign armies in 1860. One scholar has gone as far as to blame the late Qing timber crisis in part on the multiple reconstructions of Beijing’s palaces necessitated both by these attacks and Empress Dowager Cixi’s decadence.\textsuperscript{252} This claim certainly overstates the significance of such imperial projects in the larger scale of Qing construction. Nevertheless, the increased number of repair projects highlighted the imperial household's growing timber supply problem. Beijing's high rate of deforestation beginning as early as the Yuan Dynasty meant that the imperial household had long been reliant upon canal networks and distant woodlands to meet its needs.\textsuperscript{253}

Old structures of woodlands conservation did little to help in the face of the growing timber shortage. During the Guangxu reign (1871 – 1908), the imperial household faced many incidences in which its trees came under threat. In 1877, a wildfire raged in the Eastern Tombs, burning down many of the trees that protected the tombs' fengshui.\textsuperscript{254} The imperial household blamed this fire on local practices. In 1879, it reminded its subjects that they were not allowed to enter the imperial tombs to perform funerary rites 私自喟葬.\textsuperscript{255} Unfortunately, disaster struck the imperial tombs again when an insect infestation was reported in 1897. This time the memorialist blamed the “official in charge of protecting the tomb 守護大臣,” who failed to spot the infestation the previous year and allowed it to spread.\textsuperscript{256}

Neither was the imperial household’s timber safe from harm. In the Qing capital of Beijing, numerous thefts of imperial timber occurred in centers of imperial control such as the Imperial Academy 国子监\textsuperscript{257} and the East Gate 东直门\textsuperscript{258} in 1894, and the Forbidden

\textsuperscript{251} Ibid., p. 160.
\textsuperscript{252} 梁明武。明清時期木材商品經濟研究。北京：中國林業出版社，2012，第 17 頁。
\textsuperscript{253} 樊宝敏、董源《明清时期环北京地区的林业政策》《北京林业大学学报（社会科学版）》第一卷第一期（2002年5月），56 - 61.
\textsuperscript{254} First Historical Archives, 1346.2.00250
\textsuperscript{255} First Historical Archives, 1355.3.00154
\textsuperscript{256} First Historical Archives, 1432.2.00128
\textsuperscript{257} First Historical Archives, 1422.2.00172
\textsuperscript{258} First Historical Archives, 1422.3.00084
City in 1895.\textsuperscript{259} Natural disasters, such as the loss of buildings in the Temple of Heaven to a lightning strike in 1889,\textsuperscript{260} only increased the Dynasty's need for timber to support its image.

The difficulty of procuring timber suitable for military and ideological projects inspired the rise of Qing interest in managing timber supply. The Ming Dynasty (1368 - 1644) had managed the felling and transportation of timber used for imperial projects such as the repair of palaces and temples. These shipments of aesthetically appealing camphor 楠木 and Chinese fir 杉木 timber took five or six years to reach Beijing, though typically anywhere from 80-90\% of the shipment had been lost along the way due to damage and grafting.\textsuperscript{261} The Qing chose to leave the issue of timber supply entirely in the hands of private timber merchants.\textsuperscript{262}

However, by the late nineteenth century these merchants had become unreliable sources of the specific types of timber required by central officials. One such case occurred in 1875, when the Ministry of Works (工部) ordered the governor of Sichuan to supply Beijing with materials to construct lantern poles for the Temple of Heaven.\textsuperscript{263} From the start, the issue of transportation played a prominent role in these communications. The weight and size of the logs made overland transport a slow and labor-intensive process. In the Northeast, for instance, loggers typically entered the forest in September, only to return with the timber in June.\textsuperscript{264} As such, loggers relied heavily on canal and river networks to ship their supplies over even relatively short distances.\textsuperscript{265} However, due to a reprioritization of imperial resources, much of the Grand Canal – which connected northern Beijing to the southern provinces – had gradually fallen into disrepair over the course of the nineteenth century.\textsuperscript{266} This meant that officials in Beijing would need to rely on new and foreign shipping technologies to secure much-needed supplies.

The Board of Works recommended that the governor of Sichuan ship the timber along the canal system to Shanghai. From there, Governor-General Li Hongzhang agreed to supervise its transportation by sea to the port of Tianjin, which lay only a short distance from the capital of Beijing.\textsuperscript{267} This, the Board hoped, would ensure the shipment's secure and quick arrival. Yet this method did not come without literal and figurative costs. In the 1870's, the Qing had only just begun the expensive process of constructing its own ships in the Fuzhou Shipyard. Nevertheless, the Temple of Heaven's need for lantern poles

\begin{itemize}
\item \textsuperscript{259} First Historical Archives, 1426.2.00142.
\item \textsuperscript{260} First Historical Archives, 03.5706.112
\item \textsuperscript{261} Liang Mingwu, p. 29.
\item \textsuperscript{262} Ibid., p. 31.
\item \textsuperscript{263} Ministry of Defense Collection (軍機處). 1336.2.122 (Guangxu 1.8.14 [September 1875]). First Historical Archives, Beijing, China.
\item \textsuperscript{264} 南滿鐵路調查課編。吉林省之林業，湯爾和譯。上海：商務印書館，1930，第 37 頁。
\item \textsuperscript{265} 梁明武，p. 46.
\item \textsuperscript{267} Ministry of Defense Collection. 1366.2.122 (Guangxu 1.8.14 [September 1875]). First Historical Archives, Beijing, China.
\end{itemize}
outweighed the imperial need for either silver or the moral high ground. And so sea transport became the only feasible option.

Yet in spite of this concession, securing even a relatively small shipment of timber from Sichuan proved challenging. In 1876, the Sichuan Provincial Governor reported that flooding had prevented him from shipping the requested supplies to Beijing. The governor had no choice but to order the shipment once more in order to meet the Ministry’s demand.268 This delay, combined with the length of the journey, meant that the Temple of Heaven had to wait over a year and a half to simply receive the materials needed to make lantern poles.269

China’s growing timber shortage affected other construction projects as well. 1877, the Governor-General of Zhejiang, Jiangxi and Anhui Provinces memorialized the throne, declaring that the Board of Works urgently needed more timber to complete the Tongzhi Emperor’s tomb惠陵.270 In 1886 another official in the same position memorialized the throne to complain that the Board of Works had not received a shipment of fir beams from Hunan Province since the eleventh year of the Tongzhi reign (1872). The Empress-Dowager Cixi agreed that Hunan should resume shipments to the Yangzi River region with utmost haste.271

Yet other documents suggest that the timber crisis was not so easily solved by simply ordering the restoration of domestic supply lines. Some local officials began to use timber imported from abroad. In 1882, two officials came under scrutiny for purchasing foreign timber in Shanghai and profiting off its sale in the interior.272 In 1899, the Hubei Commercial Press湖北商务报 remarked that imports in American pine were on the rise. “Recently, a foreign company in Shanghai has ordered 110,020,000 feet of American pine from the United States,”273 the article announced.274 In 1902, The New York Times declared that Chinese ports were had junks loaded with timber traveling from Korea and Japan. As such, it was rife with possibility for American trade.275 In 1904, the Agricultural Studies Paper农学报 published an article on the timber market along the Pacific Coast of the United States.276 China’s timber markets were becoming more integrated into the global marketplace, and large construction projects were the reason for this.

268 Ministry of Defense Collection. 1341.3.152 (Guangxu 2.8.23 [September 1876]). First Historical Archives, Beijing, China.
269 Ministry of Defense Collection. 1344.1.22 (Guangxu 3.1.4 [February 1877]). First Historical Archives, Beijing, China.
270 First Historical Archives, 1345.2.00098
271 First Historical Archives, 1387.3.00174
272 First Historical Archives, 1368.4.00074
273 近日上海某洋行向美国订购洋松木十一兆二十万尺
274 《美商贩运洋松》《湖北商务报》第 20 期（1899 年），12 页。
276 《太平洋沿岸之木业》《农学报》第 259 期（1904 年），3-6 页
III. Telegraphs and Railroads

The threat of continued military attacks from without and within inspired the rise of the self-strengthening movement. Self-strengtheners such as Li Hongzhang (李鸿章, 1823 - 1901), Zeng Guofan (曾國藩, 1811 - 1872) and Zuo Zongtang (左宗棠, 1812 - 1885) sought to strengthen China's territorial integrity through the use of Western military (ships and firearms) as well as integrative (railroad and telegraph lines) technologies.

The tentative efforts of the post-Taiping period to loosely manage the Southwest's timber supply chain sprang from a desire to secure materials of national cultural and military importance. In other words, the materials (timber) rather than the resource (forestland) were of primary importance. The few central archival documents that discuss timber prior to the 1890's focus on managing the transportation of the supply, rather its source. In the view of the state, China did not lack timber. It merely lacked the means to transport it in the wake of the destruction caused by over a decade of internal warfare. Unmapped – and therefore "illegible" to the state – the definition, use and management of forested land thus remained a highly localized phenomenon in nineteenth-century China. It may very well have continued to remain so, were it not for the specific confluence of conditions of the Chinese Northeast at the turn of the twentieth century. The rise of the telegraph and the railroad, the influx of Russian, Korean and Japanese frontiersmen, as well as a growing belief in the Chinese "geobody," all encouraged central officials to take an active interest in the size and use of Manchurian forestland.

In the 1870's, the Danish Great Northern Telegraph Company would establish China's first telegraph station in Shanghai. Soon thereafter, the British Eastern Extension Company entered into the market, allowing communication with Britain's Asian colonies via Hong Kong. By the 1880's, these two companies had already established a monopoly on Chinese wired communications and were looking to expand into the Chinese interior.

By this point, the progressive self-strengthening faction of the Chinese bureaucracy had begun to realize the revolutionary impact the telegraph could have on military readiness. After witnessing the Russian willingness to ignore the Northwest's borders in the 1870's, an overland network that would alert Beijing of a potential invasion "in the moment between two breaths 瞬息" became a much more valuable commodity. Yet, the prospect of ceding control of a military communications network to foreign companies gave the self-strengtheners pause. In 1880, Li Hongzhang – the faction's leader – established the Chinese Telegraph Bureau in the port of Tianjin. Over the course of the next decade, this bureau would supervise the construction of a wired network that

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280 Ministry of Defense Collection. 04-01-01-1084-046. (Guangxu 15.10.19 [November 1889]). First Historical Archives, Beijing, China.
would connect the Korean red pines of the Manchurian border town of Hunchun 瑿春 with the steam ships of Shanghai.

Utility poles to be used for constructing telegraph and telephone lines proved particularly difficult to procure domestically. Only certain types of softwoods\(^{281}\) lignify in a way that can produce a strong, straight pole that is able to withstand the elements. According to a British article on telegraph poles written in 1933, utility poles can be anywhere between twenty and sixty feet tall, though shorter poles tend to be able to carry less weight. “Common practice” demanded that poles only be able to carry as much weight as could allow the pole to withstand a windspeed of eighty miles per hour. If the poles were spaced sixty feet apart, this meant that they could hold twenty to sixty-nine 40-lb wires, or nine to thirty-two 150-lb wires.\(^{282}\)

Further considerations needed to be made when selecting the proper materials to construct a telegraph or telephone line. The article also notes that one could not simply choose a tall softwood to serve as a utility pole. Decades of experimentation by communications companies and government bureaus such as the Post Office had revealed that not all large softwoods were made equal. In the United Kingdom, the vast majority of utility poles were made out of Scots pine (\(\text{pinus sylvestris}\)). However, it was not the strongest variety of softwood available. That distinction fell to the European larch (\(\text{larix europa}\)), which was utilized by the Board of Trade from 1917 to 1921. The Scots pine remained the timber of choice, as European larch tended to crack over time.\(^{283}\) Nevertheless, even procuring a Scots pine of the appropriate size came with its challenges. A forty-foot stout pole\(^{284}\) of Scots pine took 175 years to grow. As a result, most of the United Kingdom’s supply came from Scandinavian countries.\(^{285}\)

Much like with the case of the palace construction materials described above, Qing officials initially left the complexities of pole procurement to merchants. Given the deteriorating state of China’s forest cover in the nineteenth century, the improbability that Southern timber-producing regions such as Fujian and Guizhou were structured in a way that would be able to support the sudden need for a large number of century-old softwoods, and the collapse of the canal system, telegraph lines most likely made use of imported timber. At any rate, the issue of timber supply for the construction of the Shanghai - Tianjin Line in 1881 fell well below the level of imperial interest. The same was true for the construction of the Beijing - Fengtian Line in 1883. This line not only connected the Qing capital with Korea, but also formed the basis for the expansion into the Manchurian frontier. In both cases, the provision of utility poles remained the purview of timber merchants, as had been true for the overwhelming majority of imperial projects throughout the Qing dynasty.

\(^{281}\) The term “softwood” refers not to the strength of the wood, but rather to the way the living tree reproduces.


\(^{283}\) Ibid., pp. 5 – 7.

\(^{284}\) Meaning able to carry a greater load.

\(^{285}\) Brent, p. 5,
Construction for the Fengtian - Jilin - Hunchun Line took a different approach. As much of the territory these lines traversed was remote, officials could not solely rely upon local merchants to supply the project with telegraph poles. In January of 1886, Empress Dowager Cixi approved Li Hongzhang's request to ask the military governors of Heilongjiang and Jilin Territories to supply suitable cuts of timber. Proposals for the construction of a telegraph line in Heilongjiang, for instance, listed cuts of timber of approximately two to five zhang\(^{286}\) among the necessary supplies. As was explained above, this measurement was in line with international standards of twenty to sixty feet.

The proposal noted that most of the trees along the Songhua River banks were too small to be used as telegraph poles. Loggers needed to trek deep into the mountains in order to find trees of a suitable size.\(^{287}\) Though most of the line did not run through its territory, the order asked Heilongjiang to provide over 14,000 poles – or approximately ten per \(\text{li}\) traversed.\(^{288}\) In spite of the region's reputation for abundant forestland and cheap timber prices, the Heilongjiang Military Governor quickly discovered the challenge of this task: \(^{289}\)

Heilongjiang Province has yet to have timber mills or merchants. I immediately ordered each city to employ workers to divide into sections and enter mountains to fell and ship [timber]. I did this with the expectation that there would be no mistakes. However, in the vicinity of the mountains there are only short groups of trees that cannot be used [for this project]. Unless the workers went to fell in a part of the Zhikesa Region where they produced timber, which lies one or two thousand \(\text{li}\) away from each city, the timber would not meet the height requirements. However, even though the logging itself is not very expensive, the mountain roads are rugged and the trees are blocked by a ravine that separates them from the river. Constructing a bridge and opening a road to transport [them] to the workshop [means that] the transportation costs are several times [more expensive].\(^{290}\)

The memorial concludes with a plea from both the Heilongjiang Military Governor and Li Hongzhang for an additional 35,000 taels from the Board of Revenue \(\text{户部}\) so that local officials might complete the project. Without hesitation, the Empress Dowager granted the request.\(^{291}\)

Two things become evident from this description. First, prior to the start of this project, all of the high-ranking officials were unaware of the general layout of the timber

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\(^{286}\) Approx. 6.7 to 16.7 meters, or 22 to 55 feet

\(^{287}\) Heilongjiang Military Governor Collection. 04-01-35-0987-036 (Guangxu 12.7.12 [August 1886]). First Historical Archives, Beijing, China.

\(^{288}\) Heilongjiang Military Governor Collection. 04-01-35-0987-036 (Guangxu 12.7.12 [August 1886]). First Historical Archives, Beijing, China.

\(^{289}\) Ibid.

\(^{290}\) Heilongjiang Military Governor Collection. 04-01-35-0987-036 (Guangxu 12.7.12 [August 1886]). First Historical Archives, Beijing, China.

\(^{291}\) Ibid.
resources in Heilongjiang. The military governor's assumption that workers from various cities within the territory could easily obtain the materials to make at least twenty-two-foot poles proved to be misguided, causing delays in the construction of the telegraph line. Similarly, Li Hongzhang, under the assumption that Manchurian timber was plentiful and cheap, grossly underestimated the amount of funds needed simply to supply a Manchurian telegraph with local timber. To request 35,000 taels of additional funding was no simple matter. Economic historians have recently pegged China’s per capita GDP in the year 1880 at around 11.78 taels.\(^{292}\) This makes the requested sum nearly 3,000 times greater than the contemporary per capita GDP.

Second, the challenge of supplying such large cuts of timber forced officials of all levels to gain a greater familiarity with the nature and distribution of Heilongjiang's forested regions. In order to arrive at the conclusion that they could find trees of a suitable height in the remote Zhikesa Region, at least some of the officials involved would need to demonstrate a general command of the distribution of Heilongjiang's forested land. Similarly, these officials would need to be well-versed in both the mechanics of logging as well as the topography of a remote location in order to estimate the amount of funds needed to transport large logs over difficult terrain. The memorials from the provincial governor of Sichuan cited earlier in this chapter did not exhibit this level of familiarity with Sichuan's forests or timber industry. Given the prominence of timber as an industry in the Southwest, even a task as urgent as supplying the imperial palace with appropriate materials would not have required a high level of involvement on the part of local officials. The situation in the Northeast was quite different. Low population density, harsh climate, and distance from large metropolises had not fostered a thriving timber industry. When the Dynasty needed timber, provincial officials could not necessarily farm the task out to enterprising timber merchants.

The arrival of the railroad would transform Manchurian timber into a viable industry connected to global economic markets. In 1896, following China's loss in the Sino-Japanese War, imperial Russia and Qing China signed a secret treaty granting railroad construction rights to the nominally independent China Eastern Railway (CER). The treaty stipulated that the CER would control all timber, mining, industrial, commercial and even communications rights along the track. The growing Russian presence in the Northeast in part represented an attempt to create a secure buffer zone from Japanese encroachment.

At the same time, the desire to extract and profit from Manchuria's resources also played a significant role. Stephen Brain's study of early twentieth-century Russian forestry argues that by the turn of the twentieth century Russian elites had begun to notice the growing depletion of Russia's forests. Furthermore, the image of a forested land had become so entwined with elite conceptions of Russian identity that deforestation prompted the rise of conservation regulations. These regulations ultimately led to the

The comparative lack of forest regulations in China offered an appealing option for not only Russian merchants, but also the Russian state. Through manipulation of the stock sales, the Russian government succeeded in securing for itself 25% of the CER shares, thereby undermining its supposed independent financial status. Soon after its inception, the CER promptly began to construct what one source claims to have been the world's longest forested railway line. The rail line ran through the forest of the Greater Khingan Mountains to the west, the Songhua and Mudan Rivers to the east, all of which would become key forestry centers from the Republican and Manchukuo periods into the early years of the PRC.

The considerable profits gained from legal (and illegal) felling by Russian lumber merchants prompted local officials to take an unprecedented interest in timber as an industry. In the region that would soon become Jilin Province, for example, local general Yan Mao 延茂 established a Department of Foreign Negotiations 交涉局 in 1897 to monitor and collect taxes on the region's timber, mining, telegraph and other enterprises. The Department succeeded in negotiating a standardized registration and taxation system with the CER in 1898. By 1899 it had established a separate Timber Division 木植公司 to inspect and tax local lumber enterprises. Although illegal felling certainly continued to present problems to local administration, the Department of Foreign Relations seems to have been nominally successful at limiting the influence and impact of Russian interests outside the immediate vicinity of the rail line in the very early years of the CER.

Qing control over Russian resource extraction in Manchuria declined dramatically following the Boxer Rebellion. The rebellion resulted in the destruction of nearly two-thirds of completed tracks, representing a significant financial loss for Russian merchants. Russian troops flooded into the northeast in 1900 and 1901 attempting to restore order. In the years that followed, the Russian government continued to take a more active approach in managing and extracting Manchurian resources in order to recoup its losses. In 1902, it increased its shares in the CER to control 53% of the company. In 1904 the Russian-controlled CER negotiated individual treaties with local officials in Heilongjiang and Jilin Provinces for the rights to exclusive control over an additional 207,834 hectares of tree farms. Russian extraterritoriality applied throughout the rail line. In addition, all land and activities along the railway became tax free, severely hindering the Qing's ability to profit from the timber trade. The only obstacle to Russian expansion came in 1905 with

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295 韩麟风主编。东北的林业。北京：中国林业出版社，1982，第 115 页。
297 吉林省志，林业卷。第 721 到 722 页。
298 Paine, p. 23.
300 韩麟风，第116页.
the Treaty of Portsmouth, which resulted in the cession of the Russian-controlled South Manchurian Railway and the timber rights it controlled to Japan. Yet, as we shall see in Chapter 3, the railroad’s influence would continue to expand as the Company continued to make strategic purchases in timber plots further and further away from the line. By 1924, they would have sizeable holdings that covered most of the settled areas of Jilin Province.

The Russo-Japanese War (1904 – 5) did more than simply shake up the balance of power over Manchuria’s railway system. As the fighting took place on Chinese soil, it also had deleterious effects on Manchuria’s infrastructure and natural environment. In 1904, officials in Jilin Province requested that the Dynasty exempt the Province from submitting forest products such as birchbark 槿皮 as tribute. Officials argued that Russian troops had felled an inordinate number of trees to serve as firewood. They claimed that as of June of that year, the Russians had completely cleared the banks of the Songhua River near the border at Sanxing 三姓. These trees were used for more than firewood. Large logs were valued for their use in barricades. Manchuria’s utility poles offered easy pickings for foreign troops. Even after the war had ended, Chinese officials still struggled to get the Japanese Imperial Army to replace the telegraph poles they stole or damaged during the war.

Japanese victory in the Russo-Japanese War extended the reach of foreign timber operations into new areas. In 1908, the Japanese Imperial Army negotiated with the Qing to establish the Yalu River Timber Company, which was to be owned in part by both the Chinese and Japanese governments. The Company’s jurisdiction lay along the banks of the Yalu River in southeastern Manchuria, which served as the border between Fengtian Province and Choson Korea. According to David Fedman’s dissertation on colonial forestry in Korea, the Company relied on transportation networks and labor markets established by nineteenth-century Koreans who were taking advantage of the decline in Manchu influence in the region. Even before the Company’s official formation, Japanese expanded on these networks by sponsoring railroad lines, building industrial timber processing station, recruiting Chinese and Korean lumberjacks and laborers, as well as infusing capital. Such practices were only intensified with the establishment of an official Japanese colonial regime in Korea in 1910. All this leads Fedman to conclude that the Japanese were successful in establishing a “new industrial geography in colonial Korea” with the express purpose of extracting timber and other natural resources from the Korean periphery to Japan.

Through the Yalu River Timber Company as well as the South Manchurian Railway (SMR), Japanese looked to establish a foothold in the Manchurian timber economy. Qualms over the sustainability of domestic resource extraction Japan encouraged the imperial government to seek resources elsewhere, just as Russia had a decade earlier.

301 韩麟凤，第 124 页。
302 First Historical Archives, 04-01-14-0099-006
303 Foreign Affairs Collection, Institute of Modern History, Academia Sinica, 02-02-003-04-020
305 Ibid., p. 203.
Lax regulations regarding logging and mining in resource-rich Manchurian made it a prime target for expansion.

Japanese desires for Manchurian timber extended well beyond the Yalu River. In 1903, the Japanese Ministry of Agriculture and Commerce published a survey of Qing and Choson forest resources. As early as 1905 with Fengtian Province. As the SMR continued to expand, the publication of such surveys increased in frequency and expanded to include Jilin Province, which held most of Manchuria’s virgin forestland. Such texts served as guides to Japanese merchants looking to enter the Manchurian industry, and included step-by-step instructions to everything from hiring workers to processing the timber.

Forestry guides and newspapers also encouraged the growth in a significant population of Japanese timber merchants in Manchuria from the Yalu River Basin into Jilin and even Heilongjiang Provinces. In 1920, a group of these merchants came together to form the Jilin Timber Guild 吉林木材同业组合 through which they could collaborate to expand their presence in North Manchuria, despite the fact that much of this territory was under the influence of long-established Russian and Chinese timber merchants. Nevertheless, Japanese merchants were able to make significant headway in the 1920’s, particularly in the vicinity of both the China Eastern Railway and South Manchuria Railway concessions.

The SMR even began to publish informational guides to Manchuria in English as a way to stake their claim to the region’s natural resources in the international community. Until the Japanese had come along to guide the poor Chinese, such sources argued, the Chinese had been completely ignorant of the value of Manchuria. A review of one such text by the Philadelphia newspaper North American highlights the prevalence of this narrative:

The progress that has taken place in Manchuria since the southern railways lines came under Japanese control is almost phenomenal. Not only has this once forbidden land been really opened to the world, but the Chinese inhabitants themselves have had their very eyes opened to acres of diamonds at their very doors. The story of this magical change, which in many ways reads like a fairy tale, is impressively told in a handsome volume on Manchuria as a land of opportunities, recently issued by the South Manchuria Railway, and which might profitably displace for a few hours some of the popular novels of the day.

306 宮島多喜郎. 淸韓兩國森林視察復命書. 農商務省山林局, 1903.
307 《淸國奉天府鳳凰廳及興京廳管內金鑛調查報告》东京:農商務省鑛山局, 1905.
308 The first of these is: Ikebe, Yūkichi (池部祐吉) and Tanaka, Yoshijūrō (田中由十郎). Kitsurin-shō Shinrin Chōsa Fukumeisho (吉林省森林調查復命書). Tōkyō: Nōshōmushō Sanrinkyoku (農商務省山林局), 1918.
This “fairy tale” of Manchurian development was certainly not limited to forestry, as the text makes abundantly clear with its detailed descriptions and photographs of the mining, agricultural, manufacturing, and handicraft industries thriving along the SMR. No modern, thriving space would be complete without a lush, but managed forest. Under Japanese leadership, even nature looked more modern, as it served the needs of urban populations and national industries.

Figure 3 A forest in an unspecified part of North Manchuria. Note that these loggers are practicing selective felling, demonstrating Japan’s ostensible commitment to "sustainable" forestry. Source: Manchuria: Land of Opportunities, insert between pp. 20-1.

IV. Seeing Like a State: The Threat to Manchuria

Had they not valued woodlands, such incursions would have had little impact on Chinese policy or thought. But, as shown in the introduction, the Qing concern for forests was rooted in both Han and Manchu culture. Ian Miller, for instance, argues that Han
elites in the Song and Ming Dynasties actively protected their woodlands from being exploited by Dynastic forces. These elites placed their family tombs in woodlands and justified their claims with the help of geomantic (fengshui) theory. Such moves crystallized an association between mountains, tombs, and woodlands that continued into the Republican period.\(^{311}\)

The literature on the Qing similarly shows how the preservation of natural spaces in the Chinese Northeast was linked to the preservation of Manchu culture. David Bello has recently shown how the promotion of foraging culture served this end.\(^{312}\) John Schlesinger’s new book also demonstrates how such feelings could extend into urban spaces, and in so doing similarly calls into question a Chinese antipathy toward natural space. He argues that the consumption of natural products (namely furs) encouraged Qing rulers and elites to value the notion of a pristine wilderness, one that had never truly existed.\(^{313}\)

Foreign loggers were not the first and only threat to Chinese woodlands. As will be discussed in greater detail in Chapter 3, the rise in agricultural migrants, ginseng gatherers, hunters, etc. in the late eighteenth and early nineteenth centuries was already making noticeable impacts on the landscape. But their presence did succeed in mobilizing official concern. As early as the 1880’s, Chinese officials expressed concern over the number of Koreans crossing the borders to fell Chinese trees. The “Korean problem” in and of itself was nothing new. Disputes over Koreans gathering resources in Qing territory had long plagued Qing-Choson relations. The primary resource of concern in the seventeenth and eighteenth centuries was ginseng, a highly valuable medicinal herb popular in the wealthy markets of both Korea and Han China.\(^{314}\) It was not until the nineteenth century that timber became the source of these tensions. In 1869, flooding and hailstorms befell six towns in Choson Korea’s (1392 - 1910) North Hamgyeong Province,\(^{315}\) destroying local crops. Local farmers travelled along the Tumen River in search of economic opportunities. Many of them ended up in the border town of Hunchun, where they began to cultivate the land in spite of local prohibitions.\(^{316}\)

Korean migrants quickly discovered that they could also make a considerable profit logging in Chinese territory and selling the timber in Korea. The Choson Dynasty’s unique forest conservation practices helped encourage the spread of Korean logging in Chinese territory and, conversely, Chinese logging in Korean territory. As John Lee argues, Choson Korea had longstanding policies that preserved pine trees for the Kingdom’s exclusive use. Throughout the Choson’s long rule (1392 - 1910), logging pine trees

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\(^{311}\) Miller.

\(^{312}\) Bello, David, "The Cultured Nature of Imperial Foraging in Manchuria," Late Imperial China, Vol. 31, No. 2 (December 2010), pp. 1 - 33.


\(^{315}\) Currently located in northeastern North Korea.

\(^{316}\) 费驰《清代中朝边境互市贸易的演变探析 (1636 — 1894)》《东北师大学报（文学社会科学版）》2006年第3期总第221期，第78页。
carried strict punishments. As a result, even in the nineteenth century, Korea still maintained a large population of red pines.\footnote{John Song Lee, “Pine Protection as Bureaucratic Forestry in Preindustrial Korea, 1392–1910,” American Society for Environmental History 2016 Annual Conference, April 1, 2016. Conference Paper.} This meant that Chinese red pines had the potential to be quite valuable in Korea. As the number of Chinese pines dwindled, Korean pines similarly became valuable in China. What ensued was a battle over timber in which merchants, migrants, and so-called bandit organizations took advantage of topography, national borders, and the lack of coordination between Korean and Chinese officials.

Concerns over “cross-border felling 越伐” reached all the way up to the Qing Court, prompting them to order their representative in the Choson government – Yuan Shikai – to file a formal complaint in 1888.\footnote{Foreign Affairs Collection, Institute of Modern History, Academia Sinica, 01-41-031-03} At this point in time, Yuan Shikai did not yet play the dominating role in Qing policy that he would in the following decades, nor was he the head of the Chinese political system that he would become in 1912. Yet already Yuan was engaged in shaping a national movement to protect China’s timber resources. Over the next several years,\footnote{Academia Sinica holds a collection of complaints from the Zongli Yamen to the Choson Dynasty specifically related to timber for 1888 – 1891.} he would continue to entreat the Choson government to keep their subjects in check by forbidding them to sell Chinese timber in Korean territory, or enjoining them to adhere to an evolving list of regulations designed to maintain forest cover along a denuding border. These included prohibitions by officials in Hunchun Township and Jilin Province that restricted logging on areas that had been classified as “lush mountains 茂山” to local building materials and coffins.\footnote{Foreign Affairs Collection, Institute of Modern History, Academia Sinica, 01-41-031-03}

Korean officials, for their part, also complained that Chinese engaged in similar tactics on the Korean side of the border.\footnote{Fedman, p. 186.} With the increased presence of Russian capital that accompanied the construction of the China Eastern Railway, border crossings into Korean territory became more firmly connected to global capitalist markets. In 1903, the Choson Foreign Affairs Bureau complained that groups of Chinese bandits were crossing into Korean territory, felling pine trees, and bringing the timber back into Qing territory. Korean officials further claimed these bandits had the financial backing of Russian merchants. Nevertheless, as the bandits were Qing subjects, Choson officials entreated the Qing to arrest them.\footnote{Academia Sinica, 02-10-008-07-006} The Qing did not dispute the facts of the case. Prior experience with Russian timber merchants who hired Chinese workers to log well beyond the territory allotted to the China Eastern Railway had led Chinese officials to see such claims as possible.\footnote{Academia Sinica, 02-30-003-01-007} Nevertheless, Qing military officials argued that topography and the national border stymied any efforts to capture these timber thieves. Upon pursuit, bandits could simply cross the border, or flee into the mountains. They suggested that appealing to the Russians might be a more effective tactic.\footnote{Academia Sinica, 02-10-008-07-006}
The military officials were not completely mistaken. James Scott has written at length of the difficulty of governing mountainous terrain prior to the second half of the twentieth century. As such, these spaces served as havens for those who sought to remain free from restrictions imposed by governments, such as taxation and use of resources. The lack of cooperation between Korean and Chinese military officials also could make crossing the border an effective means of evading capture. Yet, given the difficulty of transporting heavy logs, they could have devised an effective means of preventing timber from crossing the border, had they enough manpower. A case from the opposite end of Manchuria – Russia’s border with Heilongjiang – reveals the reason that Qing officials chose not to police the border for resource loss.

In northern Heilongjiang, Russian soldiers and migrants were also taking advantage of the permeability of the Chinese border to log on Qing soil. The result was a visible line of deforestation along the border, though this process differed from that along the Korean border. Here, the Russian side was left relatively untouched. In 1907, Xu Shichang complained that local Chinese officials looked on apathetically while Russians laid waste to the mountains in Qing territory. As evidence, he cited the following memorial written by a local official:

The stretch along the river is barren and desolate for a thousand li . . . When the Russian troops crossed the border [in 1900], the large trees in the area along the river were all cut down until none remained. As the years passed, they [logged] both near and far, going further and further into the mountains . . . Across the river in Russian territory, [I saw] a lush and beautiful forest [where] large trees still live. The merchants and people in Russian territory have ceased to buy wood produced in the forest to the point that they do not fell there. [Instead,] they continually cross the border to log, [the workers] streaming along the roads. In this I have found the source [of the deforestation problem].

This narrative that used modern forestry language, as well as appealed to both the visuality and inequality of the transformation, proved partially effective. It inspired the Governor General of Manchuria, Xu Shichang, to plead with the imperial household to send troops to guard the border as they had before the Boxer Rebellion (1897 - 1901). Despite their growing interest in and knowledge of forestry, the imperial household refused to grant this request for military reinforcements. The turbulence of the nineteenth century, combined with the financial burden of the Boxer Indemnity, meant

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326 Xu Shichang was the adopted brother of Yuan Shikai. He served as the Governor-General of Manchuria from 1907 to 1909 and the President of the Republic from 1918 to 1922.
327 Foreign Affairs Archives, Institute of Modern History, Academia Sinica, ROC. 02-04-041-02-022
328 沿江一帶，千里荒涼。。。自俄兵入境後，近江地方，大木已砍伐無餘。年來由近及遠，入山漸深。。。對江俄境地方，森林茂美，大木業生。俄境商民，置已山所產之林於不伐，仍復過界砍木，絡繹道途，推原其故。
329 Foreign Affairs Archives, Institute of Modern History, Academia Sinica, ROC. 02-04-041-02-022.
that funds to secure the remote border with Russia were few. In the end, the problems of the South took precedence over the fate of a few trees in a backwater border town.

In making his case for the increased militarization of the border, Xu Shichang invokes issues of national security. But he also relies on the belief that Chinese officials shared a desire to maintain China’s forest cover. This official anxiety over the loss of Chinese trees was thus rooted in both visible and imagined changes to Chinese space. On the one hand, foreign (and domestic) logging transformed the shape and color of local landscapes at a rate rapid enough to leave a visible impression on local people. Yet on the other hand, officials in the Northeast imagined local deforestation in the larger context of Chinese loss. Throughout the nineteenth century, Qing China suffered repeated military defeats at the hands of European powers and Japan. As a result of these losses, the Qing Dynasty was compelled to sign treaties that gave foreigners certain territorial, political, and economic privileges within Chinese territory. This image of Chinese weakness and loss to foreign powers captivated Chinese literati, encouraging them to embark on a search for national wealth and power through the adoption of foreign technologies and ideas.  

Resources such as timber and coal became incorporated into this framework due to the dominance of foreign capital, merchants and technologies in extracting them. As we have seen, Manchuria’s geographic position between the Russian and, eventually, the Japanese Empires, as well as its rich timber reserves, made it a prime target for foreign capital. Foreign control of Manchuria’s railroads only facilitated the large-scale export of Manchurian timber. In their reports on Manchuria’s dwindling timber resources, Chinese officials imagined the problem as one of foreign “covetousness (jiyu 觴觎).” Like the English word “covet,” jiyu implied a strong desire for something possessed by someone else. This desire was not necessarily limited to resources, but could also include territory. For instance, in the 1880 memorial cited above imploring Empress Dowager Cixi to strengthen the defense of Manchuria to ward against Russian expansionism, the memorialist refers to the Russian attempt to conquer the Yili Valley in distant Xinjiang as an example of Russian “covetousness.”

Manchuria’s officials consistently referenced Russian and Japanese covetousness when proposing policies. Whether these were designed to prevent trends already in motion or ward against possible future incursions, foreign greed was an ever-present theme. For instance, in 1905 an official in Heilongjiang requested that prohibitions on resource gathering in his remote district in the Xing’an Mountain Range be lifted. Logging practices should be placed under government control, as should the fishing industry, because “foreigners at times also harbor covetous desires [for fish] 外人亦时存覬覦.” The following year, officials in Heilongjiang and Jilin Province established a bi-provincial timber company that would control a vast swath of land in northern Manchuria. The desire to prevent foreign loggers from “reigniting their covetousness 再生覬覦” represented a failure to check foreign greed.

330 Benjamin Schwartz’s classic work is the most obvious example of this mindset: Benjamin Schwartz. In Search of Wealth and Power: Yen Fu and the West. Cambridge, MA: Harvard University Press, 1964.
331 First Historical Archives, 03-6014-066
332 First Historical Archives, 04-01-01-1074-066
key justification for this move.\textsuperscript{333} Even Chinese timber merchants promoted this image of foreign covetousness in order to gain the rights to control lush timber plots. In 1908, two merchants began their petition by declaring that “Jilin Province is a vast territory abounding in natural wealth. Its name has resounded throughout all five continents … [but] strong nations covet [its natural wealth. They represent] an imminent threat 吉省地大物 博, 名播五洲。。。强邻觊觎, 岌岌可危.”\textsuperscript{334}

As we shall see in more detail in Chapter 3, the Qing state did have its fair share of disputes with Chinese poachers and merchants over the rights to timber in Manchuria, both before and after the spread of foreign logging from the borders to the Manchurian interior. Yet none of these disputes inspired the transition to a system similar to that of Western scientific forestry, in which groups of trees on varying types of terrain were seen as a resource and of themselves to be managed by a central government and studied by a network of scientific professionals. Only the physical or potential changes to a landscape Chinese increasingly identified as “ours”\textsuperscript{335} by outsiders inspired such a shift.

V. Seeing the Forest

In the nineteenth century, the Qing Empire did not need forests to have timber; nor, as Shellen Wu has recently illuminated, did it need anthracite deposits to have coal.\textsuperscript{336} One needed trees to create timber, of course, and mines to gather coal. But these were altogether different things from forests and deposits. The forest, in its vastness, required a supralocal force to view it in its entirety, and in so doing recognize, map and define its existence. The same was true for anthracite deposits. Only when the German geologist Ferdinand von Richthofen finished surveying and mapping Shandong's deposits could it be named, and in so doing become a resource worthy of claiming.\textsuperscript{337} Before the map and before the name, timber and coal were mere commodities, the production of which was tied to localized systems of knowledge.\textsuperscript{338} Local producers, having little need to question the place of their trees or mines beyond their line of sight, developed a vocabulary that reflected the localized nature of production. The eventual shift of focus from the commodity to the resource had profound implications for China's relationship with its trees and mountains. While in the nineteenth century both timber and coal emerged purely from the desire for their existence, in the twentieth they would begin to be produced by national design.

Schools that trained foresters would become important institutions to support this new worldview. Russian penetration into the Northeast, as well as China's loss in the First Sino-Japanese War, convinced reform-minded officials of the necessity of scientific

\begin{flushleft}
\textsuperscript{333} Jilin Provincial Archives, 1-32-2001  \\
\textsuperscript{334} Jilin Provincial Archives, 10-2-205  \\
\textsuperscript{335} Examples of such phrases include 我、我国 and 我三省.  \\
\textsuperscript{336} Wu.  \\
\textsuperscript{337} Ibid.  \\
\textsuperscript{338} Scott, \textit{Seeing Like a State}. \\
\end{flushleft}
forestry education. Agricultural schools that taught forestry as a science began to emerge in China in the final years of the nineteenth century, on a schedule that, coincidentally or not, roughly corresponds to the establishment and expansion of the Russian-controlled China Eastern Railway and later the Japanese-controlled South Manchurian Railway throughout Manchuria. The earliest such school was founded in Jiangxi province in 1896, after which there included a school in Shanxi in 1902 as well as a department of agriculture at the Capital Teacher's University 京师大学堂 in 1903. This was in turn followed by schools in Hebei (1905), Hubei (1905), another school in Jiangxi (1909), and Shandong (1910).\(^\text{339}\)

The placement of forestry departments in agricultural schools located in provinces with a strong farming economy reinforced the notion that forestry was intimately tied to (as well as subordinate to) the promotion of Han Chinese agriculture. This tradition was rooted in a reading of the Confucian canon, in particular the *Mencius*, which argued that states should provide all with access to farmland so as to ensure the health and wealth of the population at large. Late imperial institutions reinforced this belief, as property taxes on agricultural land formed a substantial portion of the late imperial tax base. Peter Perdue’s work *Exhausting the Earth* further shows that Qing officials, undeterred by their consistent failure, thought of themselves as capable of guiding farmers toward more “effective” forms of agriculture.\(^\text{340}\)

In the early years of the twentieth century, when the Qing Dynasty was desperate to collect more funds in order to repay the Boxer Indemnity, it ordered local officials to increase their tax base by reclaiming land for agriculture. Initially, officials at the national level paid little attention to how such a policy might negatively affect pastureland or forestland. Although, as we have seen, there was indeed increasing awareness of the importance of forest cover to an economy based on modern technologies, the Dynasty initially saw its immediate financial situation as taking precedence. In 1906, an official in eastern Shandong Province complained that a reclamation officer had conspired to steal 勒夺 a patch of communal pastureland in the mountains. The national reclamation movement had thus been used for the “private gain of one or two people 一二人之私财” at the expense of the “small folk 小民.”\(^\text{341}\) The Provincial Governor seized the land from the wayward official, but chose not to allow it to return to serving as communal pastureland, despite its unsuitability to agriculture. The Governor hoped instead to allow locals to plant trees and a few scattered crops. However, he acknowledged this would require an exemption from current reclamation policy.\(^\text{342}\)

Unlike officials in heartland provinces such as Shandong, those whose jurisdictions lay in the mountainous and densely forested periphery of Jilin Province had less incentive to adhere to regulations they did not agree with. Though most did not openly defy the call to promote land reclamation, in 1911 the provincial governor remarked that agricultural

\(^{339}\) 杨绍章、辛业江编著。中国林业教育史。北京：中国林业出版社，1988 年，第 14 到 18 页。


\(^{341}\) First Historical Archives, 03-5469-029

\(^{342}\) Ibid, 04-01-12-0653-022
reclamation still had not reached desired levels. County-level officials should continue to search for officially managed land that would be suitable for agriculture, as well as formulate plans to bring already reclaimed land under cultivation. These plans should be submitted alongside land surveys of forestland and wasteland suitable for reforestation.\(^\text{343}\)

This tenuous balance between promoting both agriculture and forestry reflected the mixed priorities of the Qing’s last-ditch efforts to implement modern reforms. In 1907, the Qing Center ordered each province and county to establish a Department for the Promotion of Industry [劝业道], which included an agricultural division [农务科] in charge of forest and agricultural land.\(^\text{344}\) Two years later, the recently formed Ministry of Agriculture, Industry and Commerce [农工商部] expanded its efforts to promote both agriculture and forestry in its nine-year plan development plan. This plan tied the promotion of forestry to the promotion of local agricultural associations and schools. These would also bolster local land reclamation, the silk industry, and tea farming efforts. Specific forestry programs would be predicated by extensive local surveys, the results of which would be compiled in the *Pictorial Gazetteer of Chinese Forests* 全国森林图志.\(^\text{345}\) The emphasis of these surveys was placed on determining the material and economic value of China’s forest reserves. One such forest survey in Jilin Province listed the types of trees present, the approximate size of several plots of forestland, lumber transportation mechanisms, and the suitability of the soil to planting profitable trees such as red pine.\(^\text{346}\)

The expansion of forestry in the final years of the Qing Dynasty was thus tied to not only imperialist expansion and the concomitant push to develop China’s agricultural economy, but also to a specific vision of territoriality that placed every field and forest under the gaze of the state. The state had thus changed its view of resources to extend beyond silver, population, and territory alone to also include the resources of the land, such as agricultural, mining, and forest products. As will be shown later in this chapter and throughout this dissertation, forests came to be intimately associated with Chinese economic security in an age of modern, timber-intensive technologies and the foreign extraction of Chinese resources. This reverberated both on the national and local level. As one official described in his petition to establish a forest police force: \(^\text{347}\)

> [In] this time of transportation across the seas, in this place that our strong neighbors look upon covetously, reinvigorating commerce, preparing for national defense, installing railroads and utility poles, building factories and markets, constructing steamships and barracks, all would be especially [difficult] to use to without wood.\(^\text{348}\)

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343 Jilin Provincial Archives, 1-37-4451
344 樊宝敏, p. 100.
345 Ibid, pp. 84 - 5.
346 Jilin Provincial Archives, 1-37-4441
347 Jilin Provincial Archives, 1-37-4228
348 此环海交通之际处此强邻眈视之区振兴商务筹备国防铁路电桿之设施工厂市场之建筑轮船营垒之造造尤非木无以资利用
With the rise of the Republic, and the rise of officials such as Yuan Shikai and Xu Shichang who believed in the critical importance of timber to the Chinese nation, such sentiments would continue to be a part of Chinese public life.

VI. Defending the Resource: The Republican Era

"His Majesty's Chargé d'Affaires was unpleasantly surprised to hear that the officials in Kirin [Jilin] Province have neglected during nearly four months to answer a simple enquiry from His Majesty's Consul in that Province," the British ambassador fumed in a letter to the Ministry of Foreign Relations.349 Ambiguity, it turns out, is friend to neither bureaucrat nor timber merchant. The Consul in Jilin, Ambassador Alston explained, had merely enquired whether a timber license granted to a foreign citizen under the Qing would still be valid in the Republic. In 1914 – after the official proclamation of China's first Forest Law – the reply would most likely have been swift, curt and simple, necessitating only a quick glance through the relevant regulations. However, the Consul had made the unfortunate mistake of making this "simple enquiry" in March of 1913, at a time when national forest policy was both a high priority and functionally non-existent. As a result, the matter would take a total of six long months to resolve, the end product being a carefully phrased but nevertheless vague list of conditions and stipulations.350

As the ambassador spent the following two months stomping and cursing Chinese bureaucratic inefficiency, the Ministry of Agriculture and Commerce ignored his pleas and continued its work on the Forest Law. The creation of a single law that would not only establish national forests across a variety of climates and topographies, but also account for highly variable local traditions and policies governing forest usage presented no simple problem. In the Han heartland, for example, the primary challenge was to simply carve out patches of unclaimed land where the soil could support a future forest. By contrast, the Manchurian periphery – the location of China's richest forestland – posed an altogether different set of challenges. A combination of lax border control, underdeveloped transportation systems to the Chinese heartland, as well as a seemingly inexhaustible supply of unregulated and high-quality timber meant that the Chinese government in Beijing was but one of a great many powerful competitors for this valuable land. Permissive late Qing policies regarding the timber rights of foreign citizens only lead to an increased presence of Russian and Japanese timber merchants throughout the region. In addition, the final years of the Qing left the Republican government with a legacy of Russian and Japanese government control over the most efficient means of transporting timber in the region (the railroads) as well as forestland along the line. By contrast, Chinese timber merchants relied almost solely upon the rivers to transport their goods -- a system that allowed goods to flow more readily toward areas under foreign control (Russia, Korea and the Japanese-controlled port of Dalian) than they did Beijing.

349 Foreign Affairs Archives, Institute of Modern History, Academia Sinica, ROC. 03-18-028-02-001, emphasis mine.
350 Academia Sinica, 03-18-028-02-004.
Topography, imperial legacy, and foreign timber shortages all conspired against Republican hopes to rely on Manchurian natural resources for modernizing construction projects. But central officials did not give up hope easily. In January 1913, the brief-lived precursor to MAC – the Ministry of Agriculture and Forests 農林部 – established the “Temporary Regulations for Granting Use of the National Forests in the Three Eastern Provinces” 東三省國有森林發放暫行規則.” These regulations were quite vague and did not extend beyond general guidelines for licensing loggers in national forestland. Manchurian officials were forbidden to offer licenses to foreign nationals. They also could not grant licenses to anyone for land that was essential to “ensuring the safety of national land 國土保安者” or “served the needs of public use 供公用之必要者.” Applications for timber licenses should specify the number, type and location of trees to be felled, but the Ministry’s regulations offered no guide as to how Manchuria’s officials should determine which applications to reject.

The Ministry of Agriculture and Commerce established the Forest Law in 1914. This law would apply not just to the Manchurian provinces, where Chinese control over its forests was most under threat, but to the rest of the nation as well. Nevertheless, the focus of the law on delineating national from private forestland reveals that Manchuria was very much on the minds of its creators. Article I Section II of the Forest Law declared: “All forests that have been confirmed to be without an owner and those that should, according to law, be returned to national ownership shall be considered national woodlands 確無業主之森林及依法律應歸國有者均編為國有林.”

The emphasis on establishing national forests without disturbing individual property rights was so strong that a Japanese forestry guide for Jilin Province would later dismiss the law as missing the point of forestry. It stated: "[the Forest Law's] purpose is purely financial. The government seems to have absolutely no policy regarding reforestation, but merely manages property ownership." This was not entirely accurate, as the Forest Law did also create provisions for reforestation by establishing a permitting and monetary incentives system to encourage private individuals or groups to reforest official land. The Law also promoted conservation in its "protected woodlands 保安林" provisions, which gave officials the authority to forbid logging of forests that served an ecological purpose, such as preventing erosion or protecting watersheds. However, as we shall see in Chapter 6, these provisions of the Forest Law were rarely implemented in the Chinese Heartland during 1910s and 1920s. In Manchuria, reforestation and protected woodlands programs under the aegis of the Forest Law were even rarer. In practice, as we shall see below, the Forest Law served much the same goals as the

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351 The late-Qing term for the three provinces that made up Manchuria: Fengtian, Jilin and Heilongjiang. 
352 Jilin Provincial Archives, 101 - 2 - 300 
353 Ibid. 
354 陈嵘，著。历代森林史略及民国林政史料。南京市：金陵大学农学院森林系林业推广部, 1934 年, 第 65 页; Jilin Provincial Archives, 111 - 1 - 2252 
355 南滿鐵路調查課編。吉林省之林業，湯爾和譯。上海：商務印書館, 1930, p. 47. 
356 陈嵘，第 66 页; Jilin Provincial Archives, 111 - 1 - 2252
Temporary Regulations of 1913: to protect Chinese forestland from falling further into foreign hands.

Though the British ambassador certainly did not think so, he was in fact rather fortunate to have received a delayed response to his query about foreign timber licensing regulations. Others had not been so lucky. Only a few months earlier, in January 1913, a Chinese timber merchant had made a similar request in a remote county of Jilin Province. His petition to sell a timber license to a Russian merchant, supported by copies of previous contracts of sale and a map of the area to be sold, had received swift approval from both the director of the Jilin Provincial Department of Forest Works 林務局 and the local representative of the Ministry of Foreign Relations (MOFR).

And why should it not be approved? The requisite taxes had been paid in full, after all! The claim also looked valid enough. At least, the government stamps on the previous bills of sale were authentic; besides, no one had emerged to contest the sale. The map may have looked somewhat imprecise, but that was hardly worth the extra paperwork that denying an application would require. One could hardly expect a literate gentleman (especially a government official!) to sully his silk shoes schlepping through timber country, drawing imaginary property lines through dense foliage where no obvious boundaries existed. In 1913, both officials had resolved this simple request with a hasty application of their official seals and moved on to other matters.357 Little did they realize that in those brief moments they had committed what would very soon become an unspeakable crime against the Chinese nation: the sale of national forestland to a foreigner!

On February 2, 1914, Li Jiaao 李家鏊 – the new local MOFR representative – was the first to sound the alarm. The sheer length of his memorial (a staggering forty-one pages) to MOFR betrayed the urgency of the situation. This was a matter of national sovereignty, of foreign rapaciousness, of a Chinese merchant’s treason! This was a matter of thirty-four square miles of timber land in a region that might charitably be called the middle of nowhere.358 As if this might not be enough to convince MOFR to act promptly, Li Jiaao wrote two more memorials of similar length to the MOFR on the same day providing even more evidence to support the charges against the merchant Li Chunxiang 李春湘 (no relation).359 The evidence against the merchant Li Chunxiang, as well as the officials Chen and Song was staggering. Only one conclusion could be drawn: they were all guilty as charged.

MOFR needed no further convincing of the devastating consequences of two hastily applied seals on a simple timber license. That same year officials in the Ministry of Foreign Affairs expressed great alarm at the potential of newspaper articles to lead to the influx of Japanese timber merchants. Their warnings and reports relied on the same set of imagery already present in late Qing reports, namely that foreigners had a

357 Academia Sinica, 03-18-029-01-001
358 Foreign Affairs Archives, Institute of Modern History, Academia Sinica, ROC. 03-18-029-01-001.
359 Foreign Affairs Archives, Institute of Modern History, Academia Sinica, ROC. 03-18-029-01-002; 03-18-029-01-003
rapacious greed when it came to Chinese forests. In one such memorial, the Ministry's special representative for Jilin province warned his superiors not to underestimate the Japanese desire for timber:360

When I flip through Japanese newspapers [I see that] they speak flattering words about the wealth of forestry resources in the southern part of my province [Jilin]. [In so doing,] they refer to it as a [source of] great profit. Indeed, I know that among them this type of covetousness is already extreme.361

The representative continued to describe the monopoly Japanese logging companies already held in certain parts of Jilin. He urged the central government to establish stricter regulations that would prevent Jilin's vast forest resources from falling completely into foreign hands.

Li Jiaao's accusations circulated throughout the Jilin provincial as well as the national government. Officials promptly began to refer to Li Chunxiang as a "wicked merchant", a staple pejorative in Chinese bureaucratese for those merchants who dared defy the state. Upon receiving these reports, President Yuan Shikai deplored this flagrant violation of China's national sovereignty. He promptly ordered the dismissal of the officials Song and Chen as well as the arrest of the wicked merchant Li Chunxiang.362

Following President Yuan's call for the merchant's arrest, a telegram arrived from the governor of Jilin stating that Li Chunxiang had attempted to flee the inscrutable mountains of Jilin for the policed streets of Beijing.363 Admittedly, this was strange behavior for a crafty thief in the borderland, but perhaps the stress of imminent imprisonment on grave charges such as these had caused him to lose all common sense. Fortunately, the governor also had the immense pleasure of reporting that local officials had outwitted the criminal, placing him in a cell to await trial for his crimes.364 Even though lack of proper oversight had led to the sale national land to foreign loggers, in the end China had emerged victorious. Glory to the Republic for curbing foreign avarice and stymying merchant treachery!

Unfortunately, the arrest of Li Chunxiang did not mean that the case was resolved. The Russian ambassador had expressed his outrage at the matter in written form.365 On the ground in Jilin, "Russian bandits" refused to return the land to Chinese officials.366 Two sheets of paper also complicated the swift resolution of this relatively straightforward case on the domestic front. In March, Li Chunxiang sought salvation from the only person who could grant it to him: President Yuan Shikai himself. Addressing the president in the flowery and obsequious language of absolute desperation, Li pleaded his innocence. He claimed that he owned the rights to land and, as such, the sale to Russian merchants was

360 Foreign Affairs Archives, Institute of Modern History, Academia Sinica, Taipei. 03-18-023-02-001.
361 本員翻閱和文報紙時言及我省南林業誇語富源指為利潤固知彼中於此覬覦已亟
362 Academia Sinica, 03-18-029-01-007
363 Academia Sinica, 03-18-029-01-009
364 Ibid.
365 Academia Sinica, 03-18-029-02-13
366 Academia Sinica, 03-18-029-02-12
legal under the Forest Law. "I] only implore [you], Mr. President, to empathize with a merchant's hardships and support [the cause of] justice惟有恳求大总统体恤商艰, 主持公道."^{367}

Perhaps Yuan was in a merciful disposition that day; perhaps he doubted the applicability of simple policy to the vague and concept system of property ownership in the Northeast. Whatever the case may have been, Yuan granted Li's request. He ordered the Ministry of Foreign Affairs to conduct a more detailed investigation into the case.^{368} Begrudgingly, they complied, no doubt cursing the mountain of paperwork that had once again fallen into their laps, and the troublesome merchant that put it there.

The investigation delved into the messy territory of Jilin's late Qing reclamation and property registration practices. This involved the intensive process of reading through decades of property records, writing lengthy reports, and, for the first time, mapping the territory in dispute. Former owners as well as current and past neighbors were interviewed, those interviews transcribed, and circulated through the various layers of Jilin's provincial government, as well as MOFR.

After all this, the investigators eventually concluded that Li Chunxiang had in fact legally owned the thirty-four square miles of timberland he had sold to the Russian merchant. According to the head of Jilin Province’s Bureau of Civil Affairs, local officials under the Qing had neglected to keep updated records on the timber registry. At one point, someone registered and sold land that, from the perspective of Chinese central governments, did not actually belong to them. The official at the time had not gone through the trouble to verify the applicant’s claim against the existing registers. This meant that there had been competing claims showing up in the record, which was the source of MOFR’s initial confusion (see Figure 2).^{369}

Yet local landowners had never discovered the error themselves. Or, if they had, they never reported it to the local magistrate. As we shall see in more detail in Chapter 3, given the size of these plots, the difficulty of the terrain, and the low population density, maintaining strict property boundaries was not a priority for loggers and property owners. This general apathy in Manchuria for clearly demarcating public vs. private land did not serve the needs of the Republican state, which was endeavoring to use a legal system structured around property rights to defend China’s forests from foreign control. Unless the Republic was willing to claim vast swaths of forestland by force, the complexity of Manchuria’s system of informal property rights would only undermine their efforts. Chinese officials of all ranks proved unwilling to exert this level of control.
Figure 4 A map of the overlapping property boundaries that were registered during the late Qing. Local officials failed to update the register, which caused the confusion behind the legality of Li Chunxiang’s sale. Source: Academia Sinica, 3-18-30-1-10.
Ultimately, the Republic was forced to acknowledge the legality of the sale. This served as a major blow to the Forest Law as a tool to protect China’s existing forests. I have only found two other incidents in which it was invoked as a tool to restrict access to forests, one from Heilongjiang in 1920\(^{370}\) and another from Jilin in 1928.\(^{371}\) In both cases, Chinese officials also had to concede defeat. In the case of Heilongjiang, officials were able to oust the Russians, but not the Japanese. In the case of Jilin, provincial officials succumbed to the will of an agricultural association.

Nevertheless, as we shall see in the following chapters, Republican governments would continue to maintain an interest in forests. Trees and the timber they produced were a *resource* of great importance to a modern state in a modern world filled with modern technologies. As Yuan Shikai would state in 1915: “Out of all of our production materials the majority are foreign imports, which has led to the outward flow of our financial power. Fertile soil has become barren. At times [I] worry that our vast land and its many people are in dire straits 所有産料多由外輸，遂致利權坐溢。沃壤就荒廣土，眾民時虞艱困.”\(^{372}\) As Manchurian forests continued to fall out of Chinese hands, the push to reforest Chinese land would grow stronger. In a world in which everything was moving, trees would need to move along with it in service of the modern nation-state.

\(^{370}\) Foreign Affairs Collection, Academia Sinica, 3-18-25-4-1.
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Chapter 3: The Ubiquitous Borders: Understanding Forests and Deforestation in Qing and Republican Jilin

"I recently entered the thousand-year-old woods. It was as if a giant snake had overtaken a stream. Even in daylight the woods were still dark. Tigers and wolves leaped, elk and deer pranced, a lush greenery continued into the depths, and the water of a distant stream slowly flowed. I suspect this is how the world looked at the dawn of time."373 – Japanese Traveler, c. 1902374

"I, the Prefect, have intimate knowledge that foreigners have eyes oozing with greed for Jilin’s forests. I am urgently thinking of ways to resist them."375 – Prefect of Tianchangtu 天昌圖 to the Governor-General of Jilin, 1910376

I. Introduction

Over a century ago, somewhere in the wilderness of the Chinese Northeast, time and space stood still. In amongst the trees, the pine, fir, and oak branches so closely intertwined that they blocked the sun, an unnamed Japanese traveler stood in awe, imagining a forest untouched by humanity. An ancient space perpetually existing in the "dawn of time 太古,"377 the forest thus stood beyond the pale of governance, preserved in time from the ravages of modernity. In that moment around 1902, all of nature submitted to his gaze. The wolves and tigers ceased their cries in favor of leaping (a decidedly less terrifying pursuit). The swarms of mosquitos that delighted in feasting on Chinese and Russian flesh buzzed on by in search of less noble quarry. Bandits vanished and rats fled, for they too did not belong in this Eden at dawn of time.378 Only the bounties of the earth remained, and they were glorious.

373 近入林中数千年古木老树，若巨蛇横溪，白日犹暗，虎狼跳梁，麋鹿腾踔，菁丛深邃，幽溪潺湲，疑在太古之世
374 《白山黑水录》，第二版，上海：作新社，1904（1903），p. 118。
375 知府深知外人於吉省森林眈眈汪目，急思起而抵制之。
376 10-2-243 Jilin Provincial Archives, Changchun
377 《白山黑水录》，p.118。
378 By contrast, Russian and European traveler accounts of the Manchurian wilderness highlight the prevalence of unsavory creatures such as mosquitos, rats, and bandits. For instance, Russian hunter Nikolai Baikov describes life in the Manchurian taiga as being under the “shadow of death” where one must carry out “Taiga Law: kill or be killed.” See: N. Baikov. Big Game Hunting in Manchuria, Serge Ivanoff and Gertrude Mack, trans. London: Hutchinson & Co., 1936.
However, as this chapter will show, that same forestland had in fact been managed throughout the Qing Dynasty (1642 – 1911). Like hunter-gatherer cultures throughout the world, Manchurian hunters and ginseng gatherers shaped the outline of their forests.\textsuperscript{379} The early Qing emperors sought to protect the resources on Manchuria’s forested land through patrolling borders and restricting domestic migration. The nineteenth century brought the added element of policing vulnerable forested zones in the Manchurian interior. Throughout the Qing, the definition and management practices of Manchuria’s woodlands were thus in a state of flux. Each shift represented an attempt to reconcile Northeast China’s forestland with the cultural and material needs of newly arrived populations, as well as the changing needs of Chinese states. So long as humans walked through Manchuria’s woodlands, neither could escape the burden of time.

The Japanese traveler’s gaze could not permanently transform Manchuria’s woodlands into a primeval paradise. In fact, the rise of foreign interest in the region would only intensify logging and undermine local conservation practices. The arrival of the

railroad would provide the means for timber to become a highly profitable economy, one which proved enticing for local Banner peoples and economic migrants alike.

One case from 1910 reveals how changes in the conceptualization of forest resources could affect local industries. That year, over sixty ginseng farmers from the border zone of Yanji County 延吉县 sent an urgent petition to the governor of Jilin Province. They reported that thirty to forty men claiming to represent the Jilin Provincial Forestry Bureau had trampled on their ginseng plants during a logging expedition through the County's "mountain woods 山林," causing irreparable harm to the plants. Ginseng cultivators had a long history of supporting provincial and imperial coffers through tax and tribute, the petitioners reminded the governor, paying a ten percent tax on their products. To harm ginseng "in the age when strength is sought and in these days and months of restoration"380 was to harm Jilin's economy.381 This, the text only implies, was something that the Province could not afford. The Russo-Japanese War (1904 - 1905) had been fought on Manchurian soil, laying waste to Manchuria's fledgling modern economic sectors.

As the petitioners continue to express their outrage, it becomes clear that the foresters' actions had called into question the accepted definition of Yanji County's forested space as a common space where ginseng could be planted. Yet in order to gain support from the provincial governor, the farmers needed to frame their issue using the conceptual rhetoric of the day, namely the promotion of industry and the preservation of forest density. The new industry of forestry (林业), which saw the trees that make up the "forest (senlin 森林)" as a resource, had proven completely incompatible with the ginseng industry (葠業), which saw the "mountain woods" as an ecosystem that produced several different resources.

Both "industries" relied upon Jilin Province's densely forested space, though only the ginseng farmers sought to protect its current state. As the farmers explained:382

Those who work in the ginseng industry must choose corners [of the world] where the mountains are remote and the woods are dense. When the mountains are remote and shadowed, there is no need to harm the density of the woods. When sunlit, [ginseng farmers] need not toy with balancing yin and yang, planting the seeds as trees. If it can be hoped that the plants will grow to fruition, they still need a decade before one can begin to use them . . . Recently, the forestry industry has flourished, and logging has gradually extended farther and farther. [As a result,] the ginseng groves have been moved many times, so [trade in] ginseng products has yet to boom.383

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380 當此求強之時代，維新之日月
381 Jilin Provincial Archives, 1-35-5533
382 Ibid.
383 菁紅業者必擇山邃林密之隅，山邃陰可以不害林密，陽可以不殺陰陽相均，以樹籽種，方可望其生成，尚須十年後始能曲用。。。近來林業盛開，砍伐漸遠，茭園多移，茭產尚未暢旺。
The ginseng farmers thus portrayed their industry as a potential source of great profit for Jilin's economy. Though forestry had only recently become a notable industry in Yanji County (and throughout most of Jilin, for that matter), it had already begun to push the ginseng farmers further and further into the mountains as they sought remote and dense sections of forestland. Following the rise of the "forest," suitable planting grounds for ginseng in Yanji's mountain woods had become fewer and fewer.

Fortunately for the ginseng farmers, it was discovered that the loggers were in fact impersonating Forestry Bureau officials, making it easy for the provincial government to outright condemn the logging. In Manchuria, entrenched local collectives of farmers such as these could strike fear into even magistrate's hearts, making the task of felling Yanji's ginseng-laden forests quite challenging. No doubt the "foresters" hoped that logging under the name of the provincial government might put to rest any sentiments of resistance. They did not think the ginseng farmers would dare petition the provincial government to cease logging in the area. Even still, despite the revelation that loggers had dared to impersonate provincial officials, it was only after the farmers submitted a second petition that the government put serious effort into tracking down the culprits. The ginseng farmers had not convinced the provincial governor that ginseng could form a vital part of Jilin's economy and tax base. "In the age when strength is sought and in these days and months of restoration," timber lay at the heart of state policy, while ginseng lay at the periphery.

Timber was not always at the heart of Qing policy. Had the loggers a century ago no doubt justice would have come more swiftly. As we shall see, officials in the Daoguang period (1820 - 1850) proved to be enthusiastic supporters of those who gathered or cultivated ginseng in the Northeast, creating "forbidden mountain" zones to protect ginseng from loggers. Nevertheless, in the 1830's the impact of personal logging on economies such as hunting, gold panning and ginseng shaped the look and definition of woodlands; by the first years of the twentieth century, the impact of these economies on timber access shaped the definition of forests. The distinction lay in the changing nature of the resource. Prior to the twentieth century, when Qing and Republican states sought to direct China's timber economy, the Qing did not "see" timber as European states did. However, they did see forest products such as ginseng as worthy of management. As such, I argue that the Qing did have a conception of resource management before the nineteenth century. However, this conception did not include forests and the timber they provided. Instead, it incorporated the plants and animals found in woodlands.

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384 Jilin Provincial Archives, 1-35-5533
386 Jilin Provincial Archives, 1-35-5533
387 Ibid.
In spite of China’s timber crisis, in spite of foreign military, cultural, and technological pressure, and in spite of the protestations of Shanghai elites, China was never destined to see woodlands as forests. As shown in previous chapters, religion, textual traditions, and historic patterns of governance had all worked together to create an idealized Chinese landscape. Tree groves had their place in elite gardens, tombs and temples, while the wilderness was restricted to the mountains where agriculture was inconvenient. Yet to envision forests as distinct entities that should encroach upon agricultural and secular spaces was a cultural choice, and one that depended upon the consent of local communities to carry out.

To value forests was thus not the same as valuing forested space. As we saw in Chapter 1, Chinese reformers at the turn of the twentieth century interested in adding more trees in Chinese territory could have drawn solely on indigenous models to conceptualize their projects. Like Song Siren in the eighteenth century, they could have focused their attention solely on planting trees on China’s sacred mountains, allowing the plains and valleys to remain secular and agricultural. The assumption that large forests should have a place on arable land was a conceptual leap even for early twentieth-century Americans, who resided in the world’s largest timber export economy.\textsuperscript{389} Why, then, should their Chinese contemporaries accept it?

But even if we concede that Euro-American and Japanese educational structures encouraged elites to think of indigenous models as fundamentally flawed, that does not mean that other Chinese needed to accept this assumption. As Chapter 2 has shown, though the late Qing central government may have begun to "see like a [Western] state,"\textsuperscript{390} there was little it could do to share its vision. Weak state capacity during the late Qing and Republican periods meant that the thoughts and actions even of local magistrates were as free from consequence as they ever could be. Why, then, should anyone outside of Chinese centers such as Shanghai and Beijing even think to incorporate this concept into their topographic lexicon?

Thus far I have provided a narrative of the rise of the Chinese faith in the "forest" that emphasizes the roles of those who had the power to incite change on a national level. For the first time, national figures at the turn of the twentieth century, such as the statesman Yuan Shikai, saw China as having a timber crisis. In the following chapter, I will turn my attention to China’s urban elites, who had begun to turn their attention to the twin problems of desertification and the timber trade in the twentieth century. They saw the treeless landscape that surrounded major Chinese urban centers as reflecting China’s "backwards" global position. China’s reputation as the symbol of the perils of deforestation only reinforced this belief. The first Chinese foresters – the products of foreign degrees, missionary schools, and agricultural instructors – considered the new idea of the "forest (\textit{senlin 森林})" as transforming China both culturally and economically through the reordering of its landscape.

\textsuperscript{390} James Scott, \textit{Seeing Like a State}.
Compared to these elites and statesmen, the subjects of this chapter will seem marginal and peripheral. Jilin Province 吉林省 is located in China's less populous Northeast, sharing borders with both Russia and Korea.  

391 In stark contrast to the Chinese heartland, dense forestland still covered most – though not all – of Jilin's territory the late Qing and early Republican periods. Jilin’s status as a frontier ensured that its ethnic makeup also stood in sharp contrast to the provinces below the Great Wall. Entrenched populations of Tungusic tribal peoples, Manchus, Mongols, and Manjurified Chinese mixed with newly arrived Han Chinese, Korean, Russian, and later Japanese migrants. Ecologically, spatially, and culturally Jilin stood a world apart from Shanghai and Beijing.

Like the statesmen and elites of the Chinese Heartland, many of Jilin’s officials also began to see deforestation as an issue worthy of their attention. They similarly had local languages and traditions upon which they could have drawn to manage Jilin’s forested zones. The High Qing emperors promoted the preservation of “wild” and densely forested space by use of the Manchu term weji, which they idealized as the locus of the hunter-gatherer practices tied to a sense of “pure” Manchu identity.  

392 The idea of the weji may have represented a physical and idealized topography, but it was very much a regionalized one. It stood a world apart from the barren landscape of the south, a manifestation of the superiority of Manchu culture. Furthermore, though weji was not an administrative term, this did not mean that these densely-forested spaces were not managed. Recent work by historians such as David Bello, Seonmin Kim and Jonathan Schlesinger has shown that the Chinese Northeast was home to a vibrant trade in natural resources with both China Proper and Choson Korea.

393 By the middle of the nineteenth century, the Chinese “forbidden mountain 禁山” system had already been introduced to the region as a means to maintain imperial access to key natural resources such as ginseng and gold. The growing numbers of Han and Korean migrants meant that a cultural and religious dimension was added to this conception of mountains as the primary locus of wild or “natural” spaces. And yet the weji lived on in regional parlance, the only word some locals could still find to adequately represent their understanding of this forested space as uniquely visual, physical, ecological, and cultural. Even those who referred to forested space in Jilin by the Chinese “mountain 山,” “woods 林” or “mountain woods 山林” did so in light of the ideal of the weji. While reformers to the south fixated on forest cover, Jilin’s officials saw maintaining forest density as equally important. While China’s foresters obsessed over forests and timber as the key to modern economic growth, local participants in Jilin’s older economies (such as shall be explained below, exactly how Jilin bordered these two countries would shift over the course of the nineteenth and twentieth centuries.


as the fur and ginseng trades) argued that the preservation of ecologically diverse “mountain woods” was equally as important.

This chapter narrates the physical and conceptual shifts in Manchuria's forested space over the course of the long nineteenth century through the lens of just one of its three territories: Jilin. Located along the Korean and Russian borders in the Chinese Northeast, Jilin experienced many changes over the course of the nineteenth and twentieth centuries. Han Chinese and Korean populations would grow much larger, just as new Russian and later Japanese populations would emerge. Technologies such as the telegraph, the railroad and the newspaper would facilitate the region's integration with global spaces and conceptions. New economies, such as commercial agriculture, logging, and mining, would transform into industries as a result of these connections. Old economies, such as hunting, fishing, and ginseng gathering would fade by comparison. Nevertheless, these fundamental facts would remain the same: Jilin was a frontier, Jilin was forested, and Jilin’s forestland was shaped by the needs of local, national, and foreign communities. How and to what extent were matters of economy, technology, and military power.

A transformation in the conceptualization of forested space both accompanied and incited the changes in Jilin’s landscape. Throughout the Qing Dynasty, Chinese-speaking travelers, residents and observers of Jilin struggled to describe a landscape that stood in contrast to that of the Chinese heartland to the south. As we saw in Chapters 1 and 2, by the nineteenth century most of coastal China had experienced heavy rates of deforestation; for physical, ecological, spiritual and sociological reasons, forested land on mountainous terrain had a greater likelihood of preservation, which in turn reinforced a conceptual and lexicographic association between mountains and woods. Jilin’s forestland, by contrast, extended well beyond the mountains and into the valleys.

Chinese-language texts up until the twentieth century resolved this conceptual inconsistency by referring to forested space in the Northeast by the Manchu word weji, which they commonly transliterated into Chinese primarily as woji “a gathering of nests”) and glossed with the phrase "old woods 老林." Weji was a topographic term similar in scope to mountain, river, and valley in that it referred to a type of natural topography of which there were many examples within Manchuria. A weji was a type of densely forested space located between mountain ranges to which one might go to hunt, gather firewood or worship nature spirits. It was a source of the materials needed for survival, not a material in and of itself. Its past, present and future existence lay largely outside the purview of human control; locals could no more destroy a weji than topple a mountain.

Qing efforts to control migration to the region reveal a certain awareness of the impact of competing modes of land utilization on local ecologies. Historian Guan Yaxin has convincingly argued that concerns over the ecological preservation of the Changbai Mountain region served as one of the primary reasons for early and mid-Qing limitations on migration to and within the Northeast.394 Though measures to secure the borders

394 关亚新《清代柳条边对东北地区生态环境的作用及影响》《史学集刊》第 6 期（2010），76—83。
never completely achieved their aims, only in the nineteenth century did Han Chinese and Korean migrants begin to arrive in considerable numbers. They brought with them a belief in agriculture and the market as the fundamental means for human survival; they showed little regard for preexisting customs toward land use and quickly began felling the land entrusted to local Banner units. By the middle of the century local officials in Fengtian had acknowledged defeat, opening up much of the territory to private reclamation, whether by settler farmers or merchant organizations. Jilin and Heilongjiang soon followed.

The commodification of land and agricultural products in and of themselves did not necessarily have to result in the commodification of timber. Loggers and timber merchants needed access to reliable transportation networks that could move large quantities of timber. While rivers and canals could serve that function, the harshness of Manchuria’s Siberian winters made water a less reliable means of long-distance transport. This had the effect of making the Northeast’s timber market highly localized, providing growing urban centers with building materials and firewood. Areas along the Korean border served as the exception. Choson Korea’s strict policies protecting pine trees for dynastic use, combined with a string of natural disasters in the northern provinces, encouraged Korean migrants to log in Qing China and sell their products in Choson territory.

Only with the construction of Russian and Japanese-controlled railroads in the Northeast around the turn of the twentieth century did a global timber economy penetrate deep into the interior. Both the Russian and Japanese railroad companies enjoyed extraterritorial rights along their railroad lines, which allowed them to log and mine at will. Yet this did not mean that the ecological impact of foreign presence was limited to the lines themselves. As historian Bruce Elleman has argued, Manchurian railways acted as “rivers of steel,” meaning they performed many of the same functions that rivers traditionally had. In other words, they worked to extend the economic and cultural influence of coastal ports into the Manchurian interior. The arrival of the railroad meant that the Manchurian interior suddenly had direct and easy access to world markets.

This is not to say that Manchuria had not been connected to extraregional markets before the turn of the twentieth century. Rather, the key difference lay in the speed with which the railroad allowed access to the resources of the interior. The impact of the railroad on the timber industry in particular cannot be overexaggerated. The size and weight of timber cuts made river transport the only viable option for long-distance transport. As Manchuria’s long, Siberian winters caused the rivers to freeze for months at a time, this made transporting timber over long distances difficult. The railroad not only expanded the local timber market due to the sudden need for wooden railroad ties, but it also encouraged more locals to go into the timber industry to feed Japanese and Russian

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396 衣保中。东北农业近代化研究。吉林市：吉林市新华微机，1990，第 14 页。

markets. This meant that locals logged timber from outside the confines of the railroad line to feed these markets. The zones along the riverbeds took a particularly hard hit, as loggers could use the water to transport their logs more quickly and efficiently. What were once trends that occurred in the Northeast’s border regions now were prevalent throughout the majority of the territory. The railroads had brought the national borders to the interior, and in so doing created new, visible borders along the riverbeds and the bases of local mountains.

Local officials looked upon these trends with great concern. Officials expressed anxiety over the loss of traditional Banner culture, the loss of Chinese natural resources to foreign powers, as well as the rapid and visual changes in local landscapes. As a result of these new political, spatial and economic trends, officials in the Northeast began to contemplate new methods to preserve forested land. They elected to adopt the policy prevalent in the Chinese heartland of prohibiting the private use of the resources located on certain mountains. Yet without clearly demarcated boundaries and longstanding traditions of customary knowledge, local loggers remained confused as to what exactly constituted a "forbidden mountain 禁山.” In several instances in the late nineteenth century local officials reluctantly concluded that the thieving loggers they had so relentlessly pursued should not be held culpable for their crimes due to their lack of understanding of the boundaries of forbidden mountains.

The Japanese loanword senlin 森林 – which I have opted to translate as "forest" – only began to appear in Jilin's archival documents at the beginning of the twentieth century. Officials and elites anxious to protect forested land from foreign and Han Chinese loggers sought new ways in which to administer it. It was in this context that Japanese forest administration practices began to gain popularity. Inspired by Western scientific forestry theory, the idea of the "forest" was not specific to one specific type of topography as with the mountain, but rather referred to any space with a dense population of trees. Unlike the weji, the forest should be carefully guarded, mapped, and analyzed to provide the maximum benefit for human civilization. And unlike the mountain and the weji, the idea of the forest privileged the economic value of trees as sources of timber over alternative uses of the space. Each tree in the forest had a purpose that should be owned and harnessed.

I argue that the officials and elites of Jilin Province played active roles in incorporating new ideas toward forest management. As Jilin experienced a rise in migration that impacted local ecologies, local officials began to enforce newly decreed forbidden mountain zones, an import from the Confucian tradition of forest management prevalent in late imperial China and Korea. Faith in the system as an ideal was absolute. Tree loss in these zones was largely blamed on the incompetence or apathy of local officials, rather than flaws inherent to the system itself.

Only with the arrival of the railroad did officials begin to rethink the administrative structure of forest management. Yet, it was not the availability of new ideas in and of itself that inspired this change. The Chinese administrative conception of the forest was hardly a carbon copy of those found in the West and Japan. Rather, Chinese officials saw the concept of the “forest” much like a technology, one specifically designed to address the
uniquely modern problems posed by the railroad. The Qing Dynasty’s agreements with the Russian Czarate forbade logging in forbidden mountain zones. However, the boundaries of these zones must be clearly marked, something which had never before been done. Though local officials attempted to create these boundaries, their implementation proved ineffective. Locals still ventured into forbidden mountain zones in search of timber.

Both deforestation and the threat of deforestation encouraged officials throughout the Northeast to rethink its administration of woodlands. Officials bemoaned China’s lack of a tradition of “woodlands administration 林政,” the dearth of which stood in sharp contrast to its vibrant tradition of “agricultural administration 农政.” The detailed and highly structured system developed by Japan in particular seemed all too appealing. For local officials, the idea of the forest acted very much like a technology, an administrative machine that one could simply turn on and make governing easier. Aligning oneself with the vocabulary of the forest was a symbol of one’s willingness to take a thoroughly modern approach to woodlands governance. Though the specific details of the modern approach were up for debate, by and large reforms focused on broadening the definition of wild areas beyond the mountain, the precise mapping of forested property, the intensification of forest policing, and the concern for forest density rather than simply forest coverage. Jilin’s officials hoped that modern forestry administration would allow them to preserve its woodlands, which, as we shall see, formed a core part of Jilin’s emerging identity. This, in turn, would expand the province’s emerging logging industry, prevent erosion, and preserve the idealized wooded aesthetic of its landscape.

The word “forest,” in this light, was more a tool than a revolution. It could be adapted to local circumstances and merged with local vocabularies and practices. In a time when national borders had moved from the periphery to the interior, effectiveness was valued over purity.

II. From the Unknown Wilderness to a Propertied Landscape: Migration and the Rise of Agriculture in Jilin Territory

Over the course of three hundred years, from the seventeenth to the twentieth centuries, the Chinese Northeast became and remained an extraordinary space. Through the creation of specialized policies, texts, and rituals, the Northeast attained a quasi-mystical status as the land of "the white mountains [Changbai] and the black river [the Amur] 白山黑水," the "origin of the dynasty 國朝發祥之地," and the "the revered land from which the dragon398 emerged 龍興重地." This distinct image of the Northeast has roots in

398 i.e. the emperor
the policies and ideologies of the seventeenth and eighteenth centuries. As it was technically forbidden to Han immigration and administered separately from the Han heartland to the south, the northeastern territory of the seventeenth and eighteenth centuries served as a giant preserve into which Qing emperors could escape and imagine they were experiencing the world of their ancestors. Many of the poems written by the Kangxi and Qianlong emperors play off of themes of the region's unique connection to

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399 Nicholas Menzies has argued that Manchurian forests in particular represented a “cultural resource” for the early and high Qing imperial courts. See: Nicholas Menzies. *Forest and Land Management in Imperial China*. Hampshire, UK: Macmillan Press, 1994.
the Qing imperial past. To quote the Qianlong emperor, upon passing through the border of sacred willow trees "my heart enters into my homeland 風情入故鄉." These poems served both as expressions of personal feelings, as well as justifications for imperial policy. As we shall see, preserving the Manchu "homeland" from Han Chinese was not simply a matter of maintaining cultural purity. Rather, it was also a matter of national defense, creating a self-sufficient military, and maintaining China proper's access to the frontier's natural resources. Local troops were organized along ethnic lines according to the Banner system. Each Banner was allotted a parcel of land upon which to support themselves through "traditional" practices such as hunting, fishing, and gathering. Surplus products such as pelts and ginseng were then sent below the Great Wall to China Proper through both tribute and trade. Han practices (namely agriculture) were seen as a threat to this military and cultural economy. As such, up until the nineteenth century the Qing had a vested interest in preserving Manchuria's people and land from Han intrusion.

Of the three nineteenth-century Manchurian territories, Jilin was most readily associated with extensive forestation. Even the territory's name belied the belief that forestland was an intrinsic part of its identity. To this day Jilin still remains the only Chinese province to be named after a city. "Jilin is truly the jilin 吉林 – the auspicious woods!" the Qianlong Emperor (r. 1735 - 1796) had once declared in a poem written during his visit to Jilin Settlement in 1754. Like the poem itself, Jilin's name served as an expression of imperial dreams and dynastic power. Founded as part of the Yongle Emperor's (r. 1402 - 1422) campaign to win over local tribes through a demonstration of the power of the Ming Dynasty's (1368 - 1644), the settlement had originally been called Chuanchang 船廠 in Chinese due to its status as a shipyard.

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400 For examples of a broader range of poetry on Fengtian and Jilin, and in particular the Mt. Changbai region, see: 張佳生《滿族詩歌中的長白山》《民族文學研究》第 4 期 (2009)，136 - 142。

401 Construction of two natural walls of willow trees called "willow branch borders 柳條邊" began in the Shunzhi period (1644 - 1661). These "walls" stretched for hundreds of miles, dividing Northeast China into three zones. According to historian Guan Yaxin, its purpose was twofold. First, it restricted Han immigration as well as internal migration. Second, it divided the region into three economic zones (agricultural, hunting and gathering, and pastoral) for the purpose of protecting and developing the natural environment. However, given the willow's status as a "sacred tree" in Manchu mythology, one could also argue it served a symbolic function for those entering the territory, namely to reinforce the image of the Northeast as sacred space. See: 关亚新《清代柳条边对东北地区生态环境的作用及影响》《史学集刊》第 6 期 (2010)，76－83。

402 乾隆皇帝《老邊》《奉天通志》卷 248，艺文二十六页，第 5396 页，沈阳古旧书店 1983 年版。

403 乾隆皇帝《駐蹕吉林望叩長白山》《吉林通志》卷 6，天章志，第 85 页，吉林文史出版社，1986 年版。

404 Literally "shipyard"
In response to the threat of Russian invasion leading up to the Treaty of Nerchinsk (1689), the Kangxi Emperor (r. 1661 - 1722) ordered that ship construction resume at the *ji lin wula*, as it was referred to by the local Manchu population. Following his first imperial visit to the settlement in 1682, the Kangxi Emperor bequeathed the settlement with the now familiar set of Chinese characters, meaning "auspicious woods." These characters would both reassert the Jilin Settlement's Manchu identity as well as highlight the importance of the region's trees to the physical and spiritual security of the Qing. Today, the city's nickname of Jiangcheng – or "the river city" – recalls its earlier Manchu designation as the *ji lin wula*. During the Kangxi reign, as concerns over Russia's desire to renegotiate the border decided upon in Nerchinsk continued to grow, Jilin would also

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405 Meaning "city on the river" in Manchu
become the name of the territory assigned to one of three military governors in the Northeast.

Located in the center of the Chinese Northeast (what would later be known in international circles as Manchuria), Jilin was and is the home of the Changbai Mountain, the spiritual home of the Manchu and Korean peoples and site of Qing imperial worship. A dense system of old and natural forestland surrounded the Changbai Mountain Range; even as late as the nineteenth century Jilin's forests extended throughout much of the territory. This forested land was almost exclusively located in the eastern half of Jilin, with the western territory bearing closer resemblance to the vast steppes of today's Inner Mongolia.

As Patrick Caffrey has carefully explained in his dissertation on the history of Manchuria's forests, this has as much to do with Jilin's climate and topography as it does with the impact of historical human settlement patterns. The eastern sections of the territory (including Jilin Settlement) had high levels of precipitation, allowing for widespread forest coverage, high forest density, and a varied tree population. By contrast, the Greater and Lesser Xing'an Mountain Ranges in Heilongjiang406 drew the moisture away from the plains, leaving the western portion of the Jilin (including present-day Changchun and Harbin), leaving the area largely treeless.407 Only in the nineteenth and

406 Parts of which lie in today's Inner Mongolia.

twentieth centuries would human actions begin to cause significant shifts in these forestation patterns.

Figure 8 A map of the forest coverage in northern Manchuria as of 1924. Jilin covers the eastern portion of this map. Source: North Manchuria and the Chinese Eastern Railway. p. 174.

Jilin’s Qing borders touched Siberia to the North, Korea to the East, Heilongjiang to the West, and Shengjing to the South, ensuring that its population, like those of the other two Manchurian provinces, would include a wide range of ethnicities, from Han and Manchu banners to Korean migrants, as well as tribal peoples such as the Hezhen and Oroqen. In the nineteenth and twentieth centuries, they would be joined by growing numbers of Han Chinese migrants as well as Russian and Japanese capitalists, soldiers and technicians. All would marvel at the wealth of Jilin’s land, from its "primeval" timber to its fertile soil to its gold deposits; all would seek to take something from it.

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408 In the nineteenth century, this would become Fengtian Province; it is roughly equivalent to today’s Liaoning Province.
As historian Pamela Crossley has argued, the image of Manchuria as a unified territory consisting of unified ethnic groups is inconsistent with the historical realities of life in the Northeast.\textsuperscript{409} Mixed and shifting population groups resulted in chameleon-like approaches to identity, while the "friction"\textsuperscript{410}— or impenetrability— of its territory limited the scope of southern Manchu influence on the peoples to the north. As such, she argues, we should consider the very notion of "Manchuria" as one carefully crafted by imperial household in order to both project an image of a singular Manchu identity as well as legitimate their rule.\textsuperscript{411}

Migration restrictions and transportation limitations aided in the imperial projection of a sacred and distinct "Manchuria," as they restricted the scope of Qing knowledge of the Northeast. This was particularly true in densely forested regions. Both the new and old willow borders shielded the densest of forestland from the influx of Mongolian pastoralists and southern Manchu agriculturalists.\textsuperscript{412} These limitations, combined with a limited textual tradition, meant that accounts of the Northeast were largely limited to the southernmost Fengtian region. The physical difficulties of navigating a region with few roads cutting through the dense foliage and frozen rivers for much of the year only further served to limit the scope of knowledge of the Northeast's most densely forested areas. As such, traveler's accounts of the geography from beyond the new willow border, where Jilin resided, were taken from personal anecdotes of emperors and their officials traveling to sacrifice in the Changbai mountains. Only the 1707 text \textit{Record of the Willow Border} 柳邊紀略 potentially provides an alternative narrative, as it was written by the son of a Han exile to the Northeast named Yang Bin (楊賓 1650 - 1720).

Even in the limited examples we can see that the presence of large expanses of old forestland aided in the construction of an image of Manchurian land as sacred and distinct to the Manchus. This image described in geographies and poetry on the Northeast defied conventional Qing understandings of space, to the point that even Chinese vocabulary failed them. The \textit{Record of the Willow Border} considered it necessary to introduce eighteenth-century readers to the peculiarities of the Northeast's topography through the establishment of a distinct lexicon:\textsuperscript{413}

Outside the [willow] border [a group of] many mountains that are filled with soil are called \textit{ling} [Chinese for mountain range] ... those that contain stones are called \textit{la} ... flatlands that have trees are called \textit{lin} [Chinese for woods], such as the E Woods, Wangjia Woods, etc. The areas between the mountains where there are many

\textsuperscript{411} Crossley.
\textsuperscript{412} 关亚新。
\textsuperscript{413} 楊賓。柳邊紀略（1707），第 1 卷，第 39 條。
trees is called *woji* 窩稽 or *aji* 阿機. The Shengjing Gazetteer transcribes this as *woji* 窩集, the *Veritable Records* as *wuji* 兀集 and the *Qiujiaji* 秋笳集 as *wuji* 窩稽 ...

The *Record of the Willow Border* thus points to the idea of forestland outside the willow border\(^415\) as distinct from that of the outside of the Northeast through the introduction of the Manchu word *weji*. For forested space that conforms to Chinese expectations in its density, he uses the term *lin* 林, which would have been familiar to his audience.

Until the twentieth century, the few geographies and poems about Jilin that existed all referred to forested space by the Manchu word *weji*. Initially, as we saw in Chapter 1, knowledge of the Northeast was largely limited to the personal and incidental as opposed to the textual and canonic. As a result, authors used various characters to transcribe the term into Chinese. As we shall see, the military concerns of the nineteenth century incited the drive to standardize knowledge of the Northeast's geography, resulting in a similar standardization of the transcription of *weji* as *woji* 窩集, literally a "collection of dens."

No matter the Chinese characters used, the end result remained the same. The use of the Manchu linked forested land in the Northeast with the Manchu imperial court in Beijing. The *weji* could thus be firmly linked to the preservation of the site of the origins of Manchu culture -- the Changbai Mountains -- much in the way that forested space in the Chinese heartland served to protect Chinese sacred peaks. Put another way, the use of the Manchu allowed for the particularization of the Northeast's forested topography, its link to the imperial household so absolute as to divorce it from the Chinese lexicon. By the middle of the nineteenth century, this link between Manchu culture and the Northeast's *weji* had become so entrenched that an 1851 preface to the first specialized text on Jilin – *An External Record of Jilin* 吉林外紀 – declared its territory to be preserved for Manchu hunting.\(^416\)

Recent scholarship has pointed out the extent to which southern Manchus in particular were dependent on exchanges of natural products with the two territories north of the Willow Palisade: Jilin and Heilongjiang. As David Bello has recently argued, despite the image of Jilin as unspoiled by human interactions, the Qing court relied upon the export of goods such as live tigers, furs, and fish from beyond the Willow Palisade to the capital.\(^417\) Patrick Caffrey has similarly noted that the Qing saw great value in the region's ginseng, pearls, and deer antlers, all of which were scarce in the capital.\(^418\) Seonmin Kim further demonstrates that by the eighteenth century the Choson and Qing battles over

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\(^414\) 窩稽：邊外多山載山土者曰嶺。。。載石者曰拉。。。平地有樹木者曰林，如惡林王家林之類。山間多樹木者曰窩稽，亦曰阿機，盛景志作窩集，實錄作兀集，秋笳集作烏稽。。。

\(^415\) See footnote 19.

\(^416\) 薩英額。吉林外紀（1827）。吉林市：吉林文史出版社，1986 年，第 4 頁。

\(^417\) David Bello, "The Cultured Nature of Imperial Foraging in Manchuria," Late Imperial China, Vol. 31, No. 2 (December 2010), pp. 10-11.

\(^418\) Caffrey, p. 64.
Jilin’s ginseng supply had even turned murderous. As such, the High Qing weji were managed woodlands, albeit in different ways than the Chinese forests of the twentieth century.

Figure 9 A photograph of a Russian hunter with one of his trophies c. 1910. Such animals, though strongly present in Chinese accounts in the high Qing, had largely disappeared from Chinese narratives of “forests 森林” by the twentieth century. Source: Baikov, p. 52.

Seonmin Kim, “Ginseng and Border Trespassing Between Qing China and Choson Korea,” Late Imperial China, Vol. 28, No. 1 (June 2007), pp. 33 - 61.
Yet, as we shall see, the fall of the *weji* did not mean the fall of ginseng, nor did it herald the fall of hunting and fishing as core parts of the Northeast's economy. Nor did the existence of the *weji* preclude the rise of a timber industry. Why, then, could the *weji* not survive as a framework to understand forested space beyond the nineteenth century?

I argue that the lexicographic link between preserving the *weji* and the ideals of the High Qing emperors is precisely what would make them so dispensable in the late Qing as priorities shifted toward the promotion of agriculture and industry. As compared with their seventeenth and eighteenth-century predecessors, China's nineteenth-century emperors proved to be less invested in propagating images of Manchuria as a distinct territory in need of physical and cultural preservation. This was in part a result of the failure of the Qianlong emperor's attempts to preserve a sense of Manchu cultural identity in the imperial court. Furthermore, Beatrice Bartlett has shown that the early nineteenth century witnessed a decline in imperial influence due to the rise of the Grand Council. This bureaucratic body had a strong presence of Han Chinese officials, who brought with them a similar lack of concern for the preservation of the "pure" Manchu culture imagined in the eighteenth century.\(^{420}\)

At the same time, the decline in Manchu high culture led some local military (Banner) households to adopt agriculture as a means of subsistence. This was presumably more common in the southern territory of Fengtian, which, as Christopher Isett has argued, grew increasingly tied to China Proper over the course of the seventeenth and eighteenth centuries. Though the central Qing state did not recognize or defend agricultural property through taxation, Isett argues that a customary code of property rights emerged that was inspired by practices prevalent to the South. For instance, Isett recounts a case where two Bannermen brothers began converting pastureland in their *weichang* into farmland in 1801. They farmed the land together peacefully for twelve years before electing to equally divide the property according to the Han Chinese custom of *fenjia*. Despite the absence of a legal system to support inheritance claims, the land was even passed down without incident when one of the brothers died.\(^{421}\)

Yet the decline of Manchu high culture did not represent the sole reason for the change in Jilin's landscape. The first few decades of the nineteenth century also experienced a dramatic rise in the number of Han Chinese migrants to the Northeast, particularly to the southernmost territory of Fengtian. Contrary to popular belief, this phenomenon was not unique to the 1890's, or even the nineteenth century as a whole. Historian Guan Yaxin has discovered several eighteenth-century examples of a perturbed Qianlong bemoaning the presence of unregistered Han migrants in the Northeast.\(^{422}\) Yet


\(^{422}\) Guan Yaxin, p. 78.
only in the nineteenth century did local governments begin to concede territory for the legal (and taxable) use by migrant farmers.

Initially, ease of access and official policy limited their presence to areas that were not densely forested. For Jilin, this meant the western plains were most vulnerable to agricultural penetration. As early as the reign of the Jiaqing emperor (r. 1796 - 1820), for instance, "official wasteland 官荒 " belonging to Jilin Territory’s Sixth Banner Horse Pasture was given out to migrant tenants to reclaim. 423 By 1861, Jilin’s Western Weichang 424 had already begun to exhibit signs of overreclamation by Han migrants. Local officials complained that: "in this region for seventeen or eighteen li from North to South and eighty li from East to West there is not a single tree hidden among the livestock." 425 As a result, they begrudgingly allowed it to be entered into the tax registers, thereby legitimizing local residents claims over the farmland. 426 By 1886, over 112,797 shang 坞 427 had been reclaimed. 426 A similar fate befell what is today the region between the Songhua River and the city of Changchun, where officials decided to open up 36,800 shang 坞 to reclamation. 429

423 Jilin Provincial Archives 1-7-1000, cited in Yi Baozhong, p. 18.
424 A tract of land reserved for the use of a specific military Banner.
425 该处南北十七八里，东西八十余里，皆无树藏牲
426 Jilin Provincial Archives 1-6-41, Yi Baozhong pp. 18-19
427 A unit of agricultural land measurement equal to roughly a hectare.
428 Yi Baozhong, p. 19
429 Ibid.
In 1826, the Daoguang Emperor expressed his disappointment with the lax implementation of the forbidden mountain system, a trend that had only come to his attention when a regional official brought the matter to his attention in a memorial. The Emperor issued a much stricter imperial edict, declaring that any official caught with migrants in the forbidden mountains under his jurisdiction would lose his title. Those who “complied in the light and disobeyed in the shadows” would be criminally prosecuted. Even as early as this period, the pressure from a steady flow of Han migrants looking to live off the land in the way that they had in their home provinces of Jilin.

Figure 10 A Japanese-language map of Han Chinese migration patterns, with a map of forest coverage superimposed in the corner. The city of Changchun is marked in the center. Source: Ishida Kohei, p. 33.

430 Jilin Provincial Archives 1-16-1963
Shandong and Zhili – i.e. through agriculture – had begun to alter local and official approaches to land management. By legitimizing the reclamation of land through sale to individual farmers, officials in Jilin were acknowledging – and thereby fueling – the process of the commodification of land. This shift in the Northeast was as much intellectual as it was economic. As discussed in the introduction, land had long been considered and treated as a commodity in the Han heartland. The Qing abolition of corvee labor as a form of taxation at the start of the dynasty solidified the notion of land as a valuable commodity, because it shifted the focus of taxation away from people and solely onto land.

However, in the Northeast these changes happened more or less concomitantly, changes that were fueled by China's increasing integration with global markets as well as the arrival of foreign and Chinese populations. According to agricultural historian Yi Baozhong, the people who lived in the Northeast only began to view agricultural products as commodities beginning in the nineteenth century. Han migrants who arrived in the region during this time period were accustomed to viewing land and its products as having a monetary value that was linked to extralocal markets. This stood in opposition to previous conceptions in the Northeast of land and its products as supplying material goods for personal consumption, military use, or local barter. As alluded to in the previous chapter, the growth of foreign-sponsored sea trade following the Opium Wars (1839 - 1842; 1856 - 1860) solidified the process of agricultural commodification along Fengtian's coast. Between 1862 and 1865, the port of Yingkou went from having 86 to 274 ships dock in its waters in order to transport agricultural products such as soybeans, soybean oil, and bean cakes to southern China and abroad. The convenience of river transport allowed these markets to extend well into the hinterland, from the Fengtian's port of Yingkou to Jilin's Russian-dominated city of Harbin and beyond.

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431 Yi Baozhong, p. 155.
432 费驰《论交通对晚清东北开埠历程的影响》《东北师大学报（文学社会科学版）》2007年第6期总第230期，第30-4页。
While the commodification of agriculture fueled the arrival of the early Han migrants to Jilin's western plains, natural disasters and lax border control led to an influx of Korean agricultural migrants along Jilin's eastern border. In 1869, flooding and hailstorms befell six towns in Choson Korea's (1392 - 1910) North Hamgyeong Province, destroying local crops. Local farmers travelled along the Tumen River in search of economic opportunities. Many of them found their way to Jilin's northeastern border town of Hunchun 珲春, where they began to cultivate the land despite local prohibitions. Although agricultural implements such as plows had been making their way across the border through Hunchun's cross-border markets since the seventeenth century, only with the large influx of Korean migrants could agriculture become common enough to dramatically alter the local relationship to land. In 1881, Hunchun

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433 Currently located in northeastern North Korea.
434 费驰《清代中朝边境互市贸易的演变探析（1636 – 1894）》《东北师范大学报（文学社会科学版）》2006年第3期总第221期，第78页。
435 Ibid, p. 77.
decided to capitalize on the eagerness of farmers for land by establishing its own Bureau of Reclamation. From 1881 to 1885, it released over 24,104 shang to 1,133 people, during which time 20% of the land had already been made arable. In 1889 the Bureau opened over ten thousand shang to over one thousand new migrants.436

In spite of this growing trend towards agricultural reclamation, evidence suggests that the imperial household may have prevented the widespread recognition of the Northeast's reclaimed land due to concerns for the potential loss of the Banner troops' ability to live off the land. Throughout the early 1890's, the Military Governor of Heilongjiang Iktangga (Chinese: 依克唐阿, 1834 - 1899) repeatedly memorialized the throne, asking that all land in the Territory become open to reclamation. The Guangxu Emperor rejected his proposal each time,437 stating that he "feared it would hinder the livelihoods of Banner troops."438

Fortunately for similarly minded officials, the First Sino-Japanese War of 1894 - 1895 provided a financial incentive to promote reclamation. As described in the previous chapter, over the course of the nineteenth century imperial coffers were drained in the push to compete with Western, Russian and Japanese military forces. As a result, the central government in Beijing proved eager to decrease its traditional burdens and increase its tax base. For the Chinese heartland, this resulted in the lack of management of the hinterland's canal and irrigation systems as imperial support drifted toward the coastal regions.439 For the Northeast, this meant the abandonment of the ideal of a territory exclusively built for the use of the hunting, fishing, logging, and mining needs of Banner troops, and instead the promotion of agricultural reclamation to create a consistent tax base.

To this effect, the Guangxu Emperor issued an order in 1895 to the military governors of Heilongjiang, Fengtian and Jilin in which he declared that more of the Northeast's land should be reclaimed. The proclamation begins by quoting the initial request to reclaim the territory made by the Acting Military Governor of Heilongjiang (護理黑龍江將軍), which depicts parts of his Territory as ripe for agricultural production. He wrote:440

The southeastern section of Heilongjiang [has] one thousand li of fertile [land]. It truly has many parts that are easy to cultivate. The previous Military Governor Iktangga repeatedly asked to open [this region] to reclamation, [but] as it was feared that this would restrict the Banner troops' livelihood it was not approved. Today this Acting Military Governor once again requests that a civilian official be

436 Jilin Provincial Archives 1- 6-71, cited in 农保中 p. 20.
437 First Historical Archives of China, 1426-4-188
438 恐碍旗丁生計
440 First Historical Archives of China, 1426-4-188
sent to survey four areas (the Tongken, Keyin, Tangwang River, and Guanyin Mountain [regions]) and open them to reclamation. I find that the strip west of the Tongken River is far away from each of the settlements east of Qiqihaer. Keyin is also northeast of Tongken, both of which are neither pastureland nor hunting grounds. Also, the two areas Tangwang River and Guanyin Mountain hug the river banks. This will be especially suitable to promptly assigning [land].

In short, the Acting Military Governor makes the case that where fertile land exists, it should be used for agriculture. However, this does not mean that he argues that Heilongjiang's land should only be used for agriculture. To wit, he notes that two of the areas he seeks to open to reclamation – Tongken and Keyin – "are neither pastureland nor hunting grounds." Put another way, agricultural should have its place in the Northeast's topography and economy, but so should pasturelands and woodlands.

The Guangxu Emperor, though recognizing the need to cultivate self-sufficiency among the Northeast Banner troops even in an era of increasing military costs, approved the Acting Military Governor of Heilongjiang's proposal. In the edict referenced above he wrote:

The Three Eastern Provinces [i.e. the Northeast] is land of fundamental importance. In times past, [we] left an abundance of the products of its mountains, woods, rivers and marshes in order to support the people. Although there was quite a lot of wasteland in-between [the weichang], [we] closed the region off [to agricultural migrants]. Today, the strength of our neighbors has forced [our] local troops to eat emptiness. I think the time is such that [we] must open distant land to reclamation as a policy out of concern for our borders.

The Guangxu Emperor thus acknowledges the abundance of land in the Northeast, but implies that the people should ideally not profit from it through agriculture. Only the mountains, woods, rivers and marshes should "support the people," while the "wasteland" (i.e. uncultivated land) should remain untouched. However, the Russians to the north and the Japanese to the east threatened the troops' food supply, forcing the Emperor to allow the reclamation of the proposed land in Heilongjiang. Further in the edict, the Emperor also ordered the military governors of Jilin and Fengtian to open more land in their territories to reclamation.

In short, the influx of Han and Korean agricultural migrants brought about the rise of the idea of land as property, the resources of which belonged to individual owners rather than the community at large. Christopher Isett’s study of Qing Manchuria shows

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441 黑龍江東南一帶膏腴千里，實多宜稼之區。前將軍恭镗依克唐阿屢請開墾，因恐碍旗丁生計未經議准。今該護將軍復舉通肯，克音，湯旺河，觀音山四處奏請欽派文職大員前往勘辦開墾。查通肯河西一段在齊齊哈爾東境，距各城均遠。克音一段又在通肯東北，均非牧獵之所。及其湯旺河觀音山二處扞蔽江干，尤宜時機布置。及其湯旺河觀音山二處扞蔽江干，尤宜時機布置。
442 First Historical Archives of China, 1426-4-188
443 東三省為根本重地。山林川澤之利當留有餘以養民。是以雖有閒荒尚多封禁。今強鄰偪處，軍食空虛。揆度時宜，不得不以蠻闢為籌邊之策。
444 First Historical Archives of China, 1426-4-188
that Han Chinese migrants and local Bannermen alike adopted Chinese customs surrounding property rights to the conditions of Manchuria. Beginning in the early nineteenth century, these were enforced by local villages on the basis of local customs rather than codified law.\textsuperscript{445} One can only assume that Korean agricultural migrants brought similar practices with them. Yet the presence of agriculture alone does not explain the rise of the central government’s view of land as property in the Northeast. Only with the Guangxu Emperor’s concession that Manchurian land should be given out to cultivation did the central Qing state officially recognize Manchuria as a propertied territory. As we saw above, the nineteenth-century Qing state’s promotion of migration was in part due to its concerns over Russia’s southern expansion into Chinese territory.

The idea of land as property eroded at the previous \textit{weichang} system, in which vast swaths of territory were reserved for the communal use of military forces called Banners. Nevertheless, officials in the Northeast seemed to welcome the presence of migrant farmers and the chance to profit off of their efforts through the sale of land and, thereafter, taxation. By contrast, the imperial household in Beijing by and large did not actively recognize the legitimacy of these farmers’ presence in the Northeast and their claims to land, preferring to at least maintain the image of a Manchu refuge from the Han agricultural lands to the south. Isett argues that Manchurian officials actively resisted this policy as early as the eighteenth century.\textsuperscript{446} As we saw above, Manchuria’s regional officials also pushed against central policies of Han exclusion. Russian and Japanese expansionism clouded these illusions, resulting in the lifting of the ban on reclamation. This decision would lead to a great migration of Han farmers to the Northeast, resulting in the rapid expansion of agriculture as a practice throughout the region. This, in turn, would serve in part as the basis for forest policy rooted in the idea of wooded land as property.

\section*{II. Preserving Woodlands in the Age of Agriculture}

However, this does not mean that officials in the Northeast sought to convert the region into a purely agricultural zone at the expense of lands ideal for logging, mining, hunting and fishing. Concerned with maintaining steady access to the wildlife, timber, and minerals necessary for Banner and military supplies, local officials and military governors in the Northeast thus sought to establish some land for these purposes. Even in regions where \textit{weiji} existed, the idea of the \textit{weiji} – with its associations of an imperially sanctioned wilderness preserved from mining and agriculture – seemed inappropriate for the task. According to the 1902 official text the \textit{Complete Gazetteer of Jilin} 吉林通志, the \textit{weiji} was merely a name given to forested space by "local people 土人."\textsuperscript{447} By this the text likely means local Banner families as well as the Han and Korean migrants who had long-standing ties to the region. The placement of such descriptions of \textit{weiji} in a section

\textsuperscript{445} Isett, pp. 126 – 30.
\textsuperscript{446} Ibid, p. 8.
\textsuperscript{447} 《吉林通志》长春「？」：吉林文史出版社，1986（1900，1930），第 331 页。
describing resources "on the mountain 山上" reaffirms the late imperial Chinese understanding of place of forestland as both linked and subordinate to the mountain.\textsuperscript{448}

As such, following the precedent for conserving land from agricultural encroachment that was common in the south of China, nineteenth-century Jilin witnessed a rise in the establishment of "forbidden mountain 禁山" zones. During the Daoguang reign (1820 - 1850), officials implemented reforms that would create these individual zones in order to provide the state a higher degree of control over access to timber. Yet the function of these zones was not initially to protect timber as a resource, but rather ginseng and pelts.

Like the Western forest, these forbidden mountains would have boundaries that would be policed by armed personnel. Limited numbers of licensed individuals would also be allowed to enter these areas to extract resources. Though policing efforts under the Southern Chinese forbidden mountain system were not as persistent as they would become with the introduction of the Western-inspired forest system, they did result in the capture and punishment of resource "thieves." Preserving the natural resources of at least some areas of the Northeast from overconsumption was thus a priority for Qing officials, even if maximizing the potential for preservation was not.

Anxiety over the ginseng trade drove this change in Qing policy. Jiang Zhushan’s marvellous monograph \textit{Ginseng Empire} shows that ginseng formed a crucial part of Han elite medical practice in the Qing. This was particularly true in the prosperous Jiangnan region, where, much to the consternation of the medical professionals, wealthy locals would use ginseng at the slightest sign of illness. Ginseng was perceived to be particularly effective at treating people who performed mental labor (劳心), making it especially prevalent among the literati classes. According to Qing medical texts, many used it so often they even died from overdose.\textsuperscript{449} Its reputed aphrodisiac qualities certainly did not adversely affect its popularity among elite Chinese.

This belief in ginseng as a miraculous cure for all that could possibly ail you was even adopted by the Western medical community. The founder of the Linnaean botanical taxonomic system gave Asian ginseng the genus name panax, which is the Latin word for panacea. An 1852 American manual titled \textit{Interesting History of the Panax} pulls together a variety of botanical and medical sources to portray ginseng as everything from an expectorant to a dyspeptic to an aphrodisiac. According to the text, it even "restores exhausted animal powers, prolongs life, &c."\textsuperscript{450} Its popularity among Chinese users in particular served as a key selling point. The Chinese were such voracious consumers, it argues, that they even engaged in a vibrant trade with the French (in Canada) and the Americans for the North American variety of ginseng. "It is hardly to be supposed that the

\textsuperscript{448} Ibid.
\textsuperscript{449} 蒋竹山。人参帝国：清代人参的生产, 消费与医疗。杭州：浙江大学出版社, 2015, 148-50。
\textsuperscript{450} \textit{Interesting History of the Panax, (Quinquefolium), of Linnaeus, the Ginseng of the Chinese, from the Archives of History and Medical Science}. Boston: White and Potter, Printers to the State, 1852, unnumbered p. 5.
extraordinary faith in the energies of the plant can be destitute of foundation,” the text declares.\textsuperscript{451}

The market for ginseng was so reliable and profitable that the Manchu imperial household was able to use the profits from its trade to fund their conquest of the Ming Dynasty. During their rule over all of Han territory under the Qing Dynasty, Manchu emperors continued to rely on the profits gained from their monopoly over ginseng. The importance of ginseng to the Qing political economy even affected their relations with tributary states. As Seonmin Kim has recently shown, disputes over Korean ginseng gatherers crossing into Qing territory could even turn deadly. The shooting of a Qing official in 1685 by a group of these Korean border trespassers resulted in diplomatic conflict between the two countries, for which the Korean king was forced to pay restitution. Nevertheless, Koreans continued to think of ginseng as a shared resource between Manchus and Koreans. Kim argues that the Manchu desire to stake clear territorial claims over ginseng inspired the Kangxi Emperor (r. 1661 – 1722) to officially delineate the border between Qing China and Choson Korea through a mapping expedition in 1712. This, she further claims, did not yet result in a fully bordered borderland, as Qing officials were amenable to the idea of a flexible border zone in certain areas.\textsuperscript{452} However, as we shall see, this trend toward demarcating borders to protect Qing natural resources would not end here.

In Asia, ginseng is primarily found in Manchuria, Northern Korea, and Eastern Siberia, though some also grows in Bhutan. However, the Manchurian and Korean varieties contain the most desirable medicinal qualities. There is also a North American variety that thrives in temperate climates, historically growing in large, forested zones such as the Adirondacks.\textsuperscript{453} As mentioned in the introduction to this chapter, ginseng is a shade-loving plant. Though ginseng can be harvested after five years, the 1910 ginseng farmers cited above declared that it took ten years to produce quality ginseng.\textsuperscript{454} Whatever the case, ginseng required extended periods of a stable, shaded environment in order to grow. Logging and agriculture both threatened this stability.

Those who dealt in the ginseng trade experienced its natural environment in different ways. There is little evidence to suggest that the typical elite Chinese consumer would have had a clear notion of the environment from which ginseng emerged. Though Qing ginseng guides did list the various origins of ginseng varieties,\textsuperscript{455} this type of branding did not necessitate projecting a clear image of the exact environment that produced ginseng. As Craig Clunas’ study of Ming consumption practices has shown, elite Chinese had a long tradition of equating the geographic origin of a product with its quality.\textsuperscript{456} Just as Americans know that the best cheese comes from Wisconsin and the

\textsuperscript{451} Ibid.
\textsuperscript{452} Kim, pp. 33 – 8.
\textsuperscript{453} Karl Jacoby notes that ginseng gathering was a source of income for nineteenth-century residents of the Adirondacks before the establishment of national parks restricted their access. Jacoby, p. 23.
\textsuperscript{454} Jilin Provincial Archives, 1-35-5533.
\textsuperscript{455} Jiang, 213 – 4.
best maple syrup from Vermont, Chinese know that the best green tea comes from Longjing Village on the outskirts of Hangzhou. Specialized Qing texts such as *A Study of Ginseng* 人参考 did provide some information about the locations, weather, and transportation of ginseng to Southern ports. Yet this information served less to facilitate the association of a particular idealized environment with ginseng consumption and more to allow consumers to verify the authenticity of the product. Climate affected the look and feel of ginseng; gathering and transportation practices meant that one could only expect ginseng shipments from specific locations at certain times of the year.⁴⁵⁷

By contrast, Western consumers took a greater interest in imagining ginseng’s natural habitat, valuing it in part for its connection to the fantastical mountains of Tartary⁴⁵⁸ as well as the mysterious emperors of the Orient. Although local varieties of ginseng did exist for American consumers, texts such as the *Interesting History of the Panax* made a great deal of effort to encourage consumers to envision even local ginseng as connected to Chinese land. “The weight of gold has been given by the Chinese for this root,” it declares, “which we are told only grows in the remote and almost inaccessible parts of Chinese Tartary, where its collection is attended by dangers sufficient to appal [sic] the stoutest man.”⁴⁵⁹ The text continues to describe the undue hardships that Chinese ginseng gatherers undergo, to which the difficulties of the “almost impassable” terrain of dense forestland only contribute.⁴⁶⁰ Such glorification of the hardships of frontier life held little appeal for the Han consumer.

Like Han and American consumers, Qing emperors largely experienced ginseng’s environment through consumption and text. Some were able to supplement this knowledge through limited personal experience. The Kangxi (r. 1661 – 1722), Qianlong (1735 – 1796) and Jiaqing (r. 1796 – 1820) Emperors did personally travel beyond the Great Wall (关外) to visit the land of their Manchu ancestors. However, due to the hardships of travel in the dense, cold woods, they had few opportunities to journey beyond the Willow Palisade (边外) where much of the Empire’s ginseng was gathered.

Yet their continued and regular contact with the officials beyond the Great Wall through memorials and poetry exchanges ensured that their glorified, ideal Manchurian landscapes mingled with tales that defied such idealizations. Chapter 1 provided examples of such imperial poetry that promoted the *weiji* – what foresters today might call old growth forest – as wild, uncultivated spaces that were superior to Han environments below the Great Wall. As David Bello has shown, these High Qing emperors promoted foraging culture as the ideal way in which Manchus should both produce food and interact with the natural world. However, they were also quite aware of the environmental consequences of promoting foraging culture, as well as the ways in which Bannermen and migrants opposed this culture.⁴⁶¹ Through the consistent need to reevaluate foraging

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⁴⁵⁷ Jiang, 216 – 24.
⁴⁵⁹ *Interesting History of the Panax*, unnumbered p. 5.
⁴⁶⁰ Ibid., unnumbered p. 9.
⁴⁶¹ Bello.
quotas to account for shifts in ecology and human practice, timeless landscapes became subject to the vicissitudes of time in the minds of High Qing emperors. Local officials and Qing emperors alike had to strike a balance between the ideals of maintaining the ecological and cultural purity of the Manchu homeland with economic and social concerns. High Qing officials could never see Manchuria’s *weiji* with the same purity as the awe-struck Japanese traveler cited at the beginning of this chapter. The land was too human, too variable, and too managed to be truly wild.

Up until the mid-nineteenth century, when internal rebellions and external threats drew their attention southward, Qing emperors maintained a vested interest in the environment that produced ginseng. To know ginseng was to rule effectively; or, rather, to know ginseng was to rule profitably. By the end of the nineteenth century, as we saw in Chapter 1, this would no longer be true. The rise of new timber-intensive technologies such as the telegraph and the railroad, combined with the growing presence of Russian and Korean timber poachers, would lead to a rise in Manchurian timber’s relative value to the Qing state. By the early years of the twentieth century, to know timber was to rule both effectively and profitably. The desires to harvest ginseng and timber both encouraged officials to prioritize forest conservation in order to foster long-term sustainability. Restrictions on logging through licensing, bans on Han migration, and policing all served to ensure that the Qing imperial household would maintain access to at least some of Manchuria’s resources.

Yet, the shift from prioritizing ginseng to prioritizing timber would result in physical changes in how Manchuria’s land was administered. Throughout the eighteenth century and into the nineteenth, local officials had been experimenting with resource management practices that would result in the sustainable harvest of ginseng. Throughout the eighteenth century, several Banner troops would be charged with gathering ginseng in a specific area belonging to their *weichang*, or land they were allotted for personal and tributary resource extraction. However, as wild ginseng became scarcer, Banners were tasked with planting ginseng in wooded areas under the supervision of the Department of Official Ginseng 官参局.

By the late eighteenth century, Qing ginseng growers began a practice known as “resting the mountain 歇山.” This meant that certain zones, easily defined by their topography rather than abstract lines in the sand, were to periodically remain restricted from all kinds of foraging activities. Given later policies, the collection of small cuts of firewood in the form of fallen branches may have been an exception to this rule. This system could work well if the ban were successfully enforced. But ginseng was unfortunately quite susceptible to external disturbances. Wildfires, logging, and traditional farming could all negatively affect ginseng plants, either hindering their growth or killing them entirely. This could be especially devastating, given the fact that ginseng cultivators

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462 Jiang, pp. 114 – 6.
464 Jiang, pp. 114 – 6.
invested anywhere from five to ten years in their crops. Population increases, and the concomitant rise in agriculture and construction, were the enemy of ginseng.

Only when logging and agriculture threatened ginseng did Jilin’s officials begin to express anxiety over these new practices. Or, at least, the threat to ginseng provided them a convenient justification for putting the weight of Dynastic authority behind policies designed to conserve woodlands. Following his 1835 visit to officially-managed ginseng groves in southeastern Jilin, the Assistant Military Governor of Jilin reported on the visual transformations in the region’s wooded landscape. In spite of existing bans on encroaching on officially managed land, Banners and migrants alike were felling trees in the southeastern mountains to create arable land and cut firewood:465

This time, when I, the Assistant Governor, went to inspect the mountains where ginseng is produced in the southeastern region [of Jilin Territory], I saw that many of the trees in the mountain production zones in and outside the kalun boundaries had been cut down by Banners and commoners to open the land for cultivation. They had also hacked the trees on the large mountains to pieces to cut firewood, with the result that the trees dry out and it is easier to open the land for good cultivation. In particular, there truly are thousands of examples of [people who] wantonly fell trees [while] logging in forbidden mountains.466

Several things stand out about this account. First, vision and personal experience, rather than secondhand or textual accounts, served as evidence for the veracity of his report. The Assistant Military Governor describes personally seeing a comparatively barren landscape in which farms and dying trees abound. His alarm stems from the visuality of the transformation, rather than specific economic and ecological consequences, or local anxiety over these changes. Second, he notes that southeastern Jilin’s transformed landscape is only a recent phenomenon. His account of the degradation begins with the phrase “this time.” The perceived celerity with which these visual transformations took place serves as a key motivation for his desire to restrict logging practices. Or, at least, it served as a suitable justification to his superior to enact restrictions on logging.

The next line in the text reveals that rapid and visual shifts in forest coverage alone were not enough to justify changes in policy:467 “I respectfully put forth that, [as] Jilin is the land from which the Dynasty emerged, all logging on the large mountains that produce ginseng should be most strictly prohibited.”468 Put another way, he is not suggesting that migrants should be rounded up and removed from the region. Rather, as “Jilin is the land from which the Dynasty emerged 國朝發祥之地,” logging should be prohibited, but only on the large mountains that produce ginseng. At first glance, this is a rather strange justification. Throughout the Qing, the phrase “the land from which the Dynasty emerged” had been used to justify the wholesale exclusion of migrants and agricultural practices in

465 Jilin Provincial Archives 30 - 3 - 26
466 本副都統此次往查東南一代產參各山，見卡倫内外山場林木多被旗民人等砍伐開地，且將大山樹株片片砍膳，令其枯乾以便創地佳種，尤復不少禁山業林任意砍伐殊屬有千例。
467 Jilin Provincial Archives 30－3－26
468 謹查吉林係國朝發祥之地，所有產參大山樹株不准砍伐，例禁森嚴。
the land beyond the Willow Palisade. Here, however, it was invoked to justify restrictions on logging only in certain key areas, reinterpreted to fit the visual and economic needs of southeastern Jilin.

In matters of dynastic ideology, the Emperor set the tone. Unlike his father and grandfather, the Daoguang Emperor made little effort to project his ideological commitment to the land from which the Dynasty emerged. Jilin’s gazetteers offer no examples of poetry on the beauty of the weiji, nor did he make personal visits to the land beyond the Great Wall. Fifteen years into this emperor’s reign, the officials in charge of managing Jilin’s resources would have been familiar with the Emperor’s disdain for ideological flights of fancy. There was thus little pressure from above to identify with or espouse the principles of Manchu exceptionalism so heavily emphasized by the High Qing emperors, especially in a document unlikely to be read by the Emperor. Nevertheless, in proposing greater restrictions to logging on the large mountains where ginseng is grown, the Assistant Military Governor emphasizes the ideological nature of Jilin’s space.

Put another way, the Assistant Governor was claiming that one could not simply protect trees without an ideological justification. As described in the introduction, this is very much in keeping with traditions of woodlands conservation to the South, where ideological claims of imperial ownership, filial piety, or religious and historical significance could be invoked to conserve or restore wooded space. The rules were different in the frontier beyond the Great Wall. Here monks, tombs, and texts could not be counted upon to save Jilin’s woodlands from agricultural encroachment. For the Han and Korean migrants flooding into Manchuria, its land represented a blank slate devoid of the systems of social control they had become accustomed to. Until new systems of social control could be established, only the woodlands’ association with the imperial household had the potential to hold any weight.

Yet recent events had proven that imperial ideology alone could not prevent the encroachment of logging and agriculture on officially managed ginseng groves. The Assistant Military Governor only had a vague idea as to how the new system might function. He suggested that the local official in charge of supervising ginseng production (in modern terms, a specialist on the subject) should be consulted for specific recommendations for how this new policy of protecting trees from the axe might be implemented. In response, the Supervisor of the Ginseng from Ten Banner Troops 十旗協參領 provided another set of justifications for conserving wooded zones. He explained that wanton logging had become a common phenomenon in areas surrounding the roads run by military courier stations 驛站, as the recent relaxing of migration restrictions had increased foot traffic in the region. As a result, "evil people steal over the border and hide in the mountains, felling trees and opening land to cultivation . . . Theft by logging becomes more frequent by the day." 470

469 Ibid.
470 有奸民偷越潛在各山內砍樹開。。。偷砍日多
In the first memorial by the Assistant Military Governor, we see the logging problem portrayed using the language of waste and ignorance. Banner peoples "wantonly fell trees" and should be prohibited from continuing to doing so. But the second memorial by the Supervisor of Ginseng portrays the phenomenon using the language of theft, which emphasizes the notion that the trees on these mountains belong to the Dynasty as opposed to the public. "Evil people" have stolen over the border (偷越), whereupon they committed "theft by logging 盜砍." Those who commit such acts of theft are subsequently demonized by the use of the term "jianmin 奸民," which I have chosen to translate as "evil people." The term "evil (jian)" implies both a sense of criminality, in the sense that timber thieves violated government restrictions, as well as a sense of moral failing. As such, the author of the second memorial – the Supervisor of Ginseng from Ten Banner Troops – sees local logging in Jilin's southeastern mountains as criminal acts, rather than the result of local need or ignorance of imperial ownership.

This belief in locals' moral failings as the cause of their willingness to mar dynastic land inspired the Supervisor to recommend making a broader claim on southeastern Jilin's woodlands. He ignored the Assistant Military Governor's proposal to claim only the large mountains for imperial ginseng groves, and instead focused on establishing forbidden mountain zones in all the surrounding mountains that produced ginseng as well. These would be guarded by nearby military courier stations, who would regularly patrol the mountains and capture timber criminals. As compared to the "forbidden woods" proposal offered by his supervisor, the forbidden mountain zones would not only criminalize the "theft" of imperial trees, but also criminalize unauthorized entry into the mountains. The respective military courier stations would be responsible for inspecting the persons and goods leaving the forbidden mountain zones in order to verify that no theft had occurred. They would also be in charge of prosecuting any thieves that they discovered in the course of their inspections. Locals should also be forbidden to clear land using controlled burns in all areas that had any connection to ginseng cultivation. The Military Governor of Jilin found this proposal for a forbidden mountain zone that was strictly guarded from "criminal" logging activity more appealing than the loosely defined "forbidden woods" zone. In the 1835 edict, he ordered that the Supervisor's program be carried out in full.471

The Supervisor needed a detailed knowledge of both the terrain and the practices of the timber industry in order to make this recommendation. Due to the limitations posed by the size and weight of logs, as well as the limitations of pre-mechanized transport, logging operated under a different set of production practices than ginseng. Ginseng's small size meant that anyone could easily remove ginseng roots from their groves, even those roots that were not yet ripe enough to serve as medicine. However, these roots could be salvaged by replanting them in a pool (参池). A fully-grown root would emerge in approximately two years. Officials thus had little incentive to police inside the mountain itself. They prevented ginseng poaching by policing entry and exit through licensing ginseng gatherers and checkpoint inspections.472

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471 Jilin Provincial Archives 30—3—26
472 Jiang, pp. 122 - 3.
Once cut, timber could not be so easily salvaged. Moreover, as we have seen, it had the potential to negatively harm the ecosystem that produced valuable resources such as ginseng. In order to protect the area's forest cover, it was therefore necessary to police within the mountain itself to prevent timber from ever being cut in the first place. However, the local supervisor of ginseng production pointed out that "in areas where the grasses and trees are dense, it is quite difficult to conduct a thorough search."

The Supervisor therefore recommends that regular patrols be dispatched in the fall, combined with sporadic patrols both on the outskirts of the forbidden zone and within the zone itself.

Though he offers no explanation for why this method might be more effective at preventing timber theft as opposed to ginseng poaching, later accounts of Manchuria's timber industry reveal the reason for the seasonal patrols. A 1928 guide for Japanese businessmen seeking to profit from Jilin's timber industry describes timber workers as working on a seasonal schedule. In mid-September, timber bosses would go into the mountains to scout ideal locations for the year's logging operation. Hired laborers would follow in early October, building shacks and creating pathways so that the logging operation would go smoothly. In early November, they "opened the mountain," a ceremony that included both ritualistic and social elements. Loggers gave religious offerings of meat and alcohol to the god of the mountain in exchange for his protection of their operation. Naturally, in true Manchurian fashion, some of this meat and alcohol also made it into the bellies of the loggers, warming their bodies from the frigid cold and facilitating social bonding. Logging then commenced for another three months, during which time each pair of workers could fell six or seven trees per day. They would then transport the logs out of the woods along the river in early April, around the time of Tomb Sweeping Festival.

Assuming loggers followed a similar schedule in 1835 as they did in 1928, the Supervisor offered a feasible solution to preventing logging in officially managed ginseng groves. By focusing policing efforts in the fall, local officials could root out loggers before they had the chance to make their winter preparations, severely hindering their ability to work at all or with much efficacy through the winter months. In creating this policy, the Supervisor thus demonstrated his deep understanding of logging as an economic practice. In the age of agriculture, to know timber was to govern effectively, because to protect timber was to protect ginseng.

What can we learn from the evolution of policy towards logging in southeastern Jilin in 1835? The most important thing to note is the concern officials displayed toward preserving forest coverage in specific zones, all of which were designated as mountains. This represented a significant concession to locals who wished to farm the land, a practice which was actively discouraged in the eighteenth century. By only staking claim over at least some of the mountains and not the valleys, Jilin's officials were choosing to accept the claims of agriculturalists in the valleys, so long as they did not threaten official ginseng

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473 Jilin Provincial Archives, 30-3-26.
474 南满鐵路調查課編。吉林省之林業，湯爾和譯。上海：商務印書館，1930，p. 39.
475 Considering the significant seasonal obstacles Siberian winters provided, this is a safe assumption.
production. This is supported by the fact that neither of the proposed types of dynastic land claims (only large mountains as opposed to all mountains where ginseng was produced) included efforts to remove migrants or eliminate agriculture altogether. The heart of the matter lay in defining Jilin Territory’s relationship to its wooded areas in a time when locals had a vested interest in tearing them down, whether this was to keep warm in the Siberian winters, to construct houses, or produce the food they needed to survive.

In a time when the imperial ideology that promoted the belief in Manchu territory as exceptional was crumbling, officials received little guidance in how to stake the Dynasty’s more restricted claims over land. Due to its low population and frontier status, few texts existed to tell them which areas were specifically of historical or cultural value. The Emperor, distracted by the growing threat of opium and British maritime powers to the South, could similarly offer little guidance in such matters. Jilin’s territory was by and large a vast, fuzzy canvas, filled with dark, inaccessible corners. The presence of a resource of value to wealthy Han consumers below the Great Wall – namely ginseng – made the choice for some areas significantly easier. Yet even here, as we saw above, the choice was not always quite so straightforward. Should officials concentrate their efforts on the large ginseng-producing mountains? Could all of them reasonably be claimed?

In their efforts to answer these questions, Jilin’s officials were also debating the role of ideology and landscape aesthetics in the creation of a new Manchuria. To claim forestland, one needed a guiding ideology, even one that recent trends had rendered internally inconsistent. The Assistant Military Governor justifies his proposal to intensify policing efforts on the large ginseng-producing mountains by referring to Jilin Territory’s status as the “land from which the Dynasty emerged,” the very ideology that had justified the complete imperial control over Manchuria’s landscape. The Supervisor took this ideological claim one step further, claiming that the rise in logging near officially managed ginseng groves was in fact due to the locals’ moral failings, meaning their unwillingness to adhere to this Dynastic ideology. The unwillingness of the Assistant Military Governor to make the same claims suggests that something else might be at play. His account of the changes in southeastern Jilin is highly visual, painting a vivid picture of a changed landscape rather than a reasoned argument for their economic consequences. This reading is further supported by the Supervisor’s remark that these mountains would be difficult to police due to dense woodlands and thick undergrowth. The Assistant Military Governor’s account, by contrast, makes it seem as if the whole of the territory had fallen to the plow.

The historian is left wondering whether it was the threat to ginseng that inspired his plea to protect local woodlands, or whether the threat to the Dynasty’s economy and ideology simply provided a convenient forum through which to make the case for conserving these woodlands. These themes of the relationship between woodlands and national ideology, as well as conflict between landscape aesthetics and material needs,

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476 Nineteenth-century gazetteer writers complained to no end of the lack of a strong textual tradition on Manchuria (and Jilin/Heilongjiang in particular) to orient them in their writing. See, for example: 《吉林通志》长春「?」: 吉林文史出版社, 1986 (1900, 1930).
would also become important themes around the turn of the twentieth century, when the rise of Manchurian timber as part of a global industry only lead to the acceleration of endemic changes in the landscape.

Despite the adjustments made in the officially managed ginseng groves of southeastern Jilin, the problem of Han and Korean migrants staking claim on lands with valuable natural resources continued to plague regional officials and emperors alike. In 1845, the Emperor sentenced two officials who had illegally opened up land to migrant cultivation to hard labor in distant Xinjiang Territory. Still, the persistence of these cases of resistance, in spite of harsh punishments against them, reveals the deep extent to which local migrants felt a rightful claim to the Northeast's land and resources, and the willingness of local officials to recognize these claims. Migrants and locals merged to create vibrant communities, both legitimized and not, in the valleys and mountains of Jilin. Eventually, officials abandoned all efforts to directly manage the ginseng trade, allowing private individuals or collectives to manage their groves independent of government control.

However, the divesting of official control over ginseng groves did not necessarily lead to a dramatic increase in the rate of deforestation. Ginseng cultivators would have been aware of ginseng's dependence on dense forestation, the great value of individual roots, as well as the great length of time it took to grow usable medicine. They most certainly developed their own institutions and mechanisms to police against logging. The 1910 case of the ginseng farmers who captured the loggers impersonating forestry officials cited at the beginning of this chapter serves as a case in point.

Hunters also had a vested interest in maintaining current forestation rates so that local wildlife might still have a place to live and breed in an increasingly agricultural world. As John Schlesinger's recent work has shown, Manchu and Han elite below the Great Wall had as much a taste for pelts as they did for ginseng. These pelts held such great value that commercial hunters nearly brought about the extinction of several key Manchurian animal species. Yet, according to archival and foreign travel accounts from the early twentieth century, hunting collectives (or “bandits”) could be both highly territorial and quite concerned with maintaining animal populations. The Russian surveyor and big game hunter Nikolai Baikov, who traveled and hunted in Manchuria in the early twentieth century, describes being captured by a group of bandits who felt he had infringed on their hunting territory. Fortunately, Baikov managed to convince the group’s leader that he was harmless enough, an act which had lasting benefits for his personal safety in the region. The bandit boss had enough clout in Northern Manchuria and Siberia to ensure Baikov’s safety for much of his trip. Later, when official desires to conserve timber as a resource of value converged with the hunters’ desires to conserve trees for wildlife, they could put this clout to use through enlisting the aid of the local magistrate in policing Jilin’s forest.

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477 清實錄，道光實錄 195.57 (1845).
478 Jiang, pp. 114 – 47.
479 Jilin Provincial Archives, 1-35-5533.
481 Baikov, pp. 9 – 23.
zones. Such a case occurred in the border county of Wangqing 汪清县 in 1911, where marten trappers were able to successfully lobby for the creation of an officially sponsored forest police force.\textsuperscript{482}

None of these trends mean that the imperial household completely abandoned all interest in managing and profiting from Manchuria’s natural resources. Throughout the remaining decades of the nineteenth century, emperors ordered the establishment of several other forbidden mountain zones in the Northeast to protect resources of local military governments from local "evil people," merchants, and bandits. The key difference between mid-nineteenth and eighteenth-century imperial resource management lay in the former’s limited interest in resources that promoted forestation. Upon the advice of two of Jilin’s top officials, in 1877 Empress Dowager Cixi (1835 - 1908) ordered that privately held gold mines in mountains throughout Jilin Territory be henceforth placed under official management. The original memorial to the Empress Dowager describes these mines as "places where the evil hide 藏奸之所,"\textsuperscript{483} framing the issue as one of public security rather than imperial coffers or Manchu exceptionalism. The deployment of military troops in these regions to drive out these bandits would thus be necessary to "transform that which was private into the official 化私為官,"\textsuperscript{484} as had been accomplished in Rehe Province\textsuperscript{485} in years past.

Like the 1835 debate over which ginseng-producing mountains officials could and should claim, the 1877 edict also attempted to find an ideology that would support imperial land management in the Northeast. The language they chose was more in keeping with imperial land management ideology of the Han heartland. They stated that only those mountains that were necessary to maintain the region’s fengshui would be off-limits to mining operations, and similarly prohibited to local entry by imperial order. In order to do this, they would completely redraw the boundaries of the mountains (划清界限) to determine which mountains should be mined and which should be reserved to preserve the region’s fengshui.\textsuperscript{486} This official control over which areas were deemed important to local fengshui is quite strange, considering Han practice to the South. As we saw in the introduction, the definition of fengshui in the Chinese heartland could indeed be quite flexible, allowing local elites to pick and choose which regions might need the most protection from mining, logging or agriculture due to local cultural, spiritual, or even environmental reasons. In order to determine a mountain’s fengshui, one needed to consult either a fengshui map or a fengshui master, someone with enough literacy and skill to operate the geomantic compass and map the region out on paper. That officials could dare exert such unilateral control over determining these mountains’ fengshui would have been unheard of below the Great Wall at this time.

\textsuperscript{482} Jilin Provincial Archives, 10-2-257.  
\textsuperscript{483} First Historical Archive 1345 - 2 - 32  
\textsuperscript{484} Ibid.  
\textsuperscript{485} The site of the Mulan Imperial Hunting Grounds, where the emperors of the early and High Qing would hold their imperial hunts. The province was abolished in 1955. Its territory is currently divided among Hebei, Liaoning and Inner Mongolia.  
\textsuperscript{486} First Historical Archive 1345 - 2 - 32
Whatever the reason for this policy, it is unclear to what extent these practices were prevalent in the Northeast, where alternative ethnic worldviews existed apart from southern literati culture. This did not mean that spiritual beliefs did not inform locals’ view of nature, or help determine whether and how certain natural resources should be exploited. For instance, in 1905 an official complained that local residents of Hulunbeier believed that ghosts inhabited a nearby lake, preventing them from fully exploiting its salt and fishing resources. With the arrival of the railroad, these beliefs had the potential to allow key resources to fall into Russian hands. The early account of Jilin’s *weiji* by Yang Bin cited in the introduction revealed a similar belief in the presence of malevolent spirits in densely forested regions. Twentieth-century Japanese accounts of logging practices show that Han Chinese loggers would begin the season by making offerings to the mountain spirits. A Manchukuo-era gazetteer of Jilin Province includes numerous examples of mystical mountains, lakes, animals and trees, including one account of a “magical tree” in Songhua River Village that resisted Russian attempts to fell it during the Russo-Japanese War (1904 - 5) by visibly bleeding from axe wounds.

However, as many of the resources in these zones were earmarked for use to supply Banner troops with food, weapons, and money, strong local spiritual prohibitions to entry would certainly not have been typical. In spite of the professed desire to preserve certain zones for *fengshui* reasons, archival resources do not reveal any examples of such mountains in Jilin. The only accounts of forbidden mountains found in archival documents suggest that by and large they were established to protect resources for the use by and profit for officials and local Banner troops. In spite of this, cases against those who violated their boundaries to fell timber reveal that local officials did not necessarily find it expedient to enforce this policy.

An 1883 case from Fu Mountain of the Sixth Ge Elite Cavalry School in Jilin reveals the ease with which a few well-placed bribes could allow one to circumvent the inspection procedures in place to protect the trees on forbidden mountains. The previous year, two timber merchants from the market towns of Jilin Settlement and Changchun had successfully bribed the local inspector to overlook their logging operation. The ruse was only discovered when the inspector’s supervisor captured an unrelated timber thief on his own tour of the mountain. The thief immediately gave up his deceased relative’s prior dealings with the crooked inspector in the hopes of convincing the interrogators of his innocence. The accidental nature of this discovery of this incidence of bribery and timber theft, combined with the implication that the

487 Located both then and now in Heilongjiang Province.
488 First Historical Archive, 04-01-01-1074-071
489 Yang Bin.
490 As of 1934, Jilin’s territory had been divided into several provinces, only one of which held the name of "Jilin." Their size and number would shift throughout the Manchukuo period, the largest number of provinces being five in 1939.
491 The accidental nature of this discovery of this incidence of bribery and timber theft, combined with the implication that the
inspector had been charged with numerous instances of bribery in the past, suggests that at least this forbidden mountain zone was loosely monitored at best. Regional officials seemed to place a much higher priority on maintaining the highest possible level of forest coverage on forbidden mountains than local officials. This was true in the 1835 case as well. Only when the assistant military governor personally toured the region and discovered the high level of deforestation were attempts made to address the problem through the creation of a forbidden mountain zone.

An 1890 order from the Jilin Military Governor to inspect for migrants in Jilin's forbidden mountain zones provides further evidence of lax local administration. In order to justify Jilin’s claim over the land, the Military Governor needs to draw on precedents from over sixty years prior. In the sixth year of the Daoguang Emperor's rule (1826), the edict begins, the emperor established six forbidden mountain zones in and around central Jilin's Shulan 舒蘭 region, which surrounded Jilin Settlement. Over six hundred migrant households resided in the region at the time, over three hundred of which were attempting to log and farm in the mountains, and the emperor shared the reporting official's concerns that they would adversely affect Banner resources. As migrants were a constant threat, the Daoguang Emperor also ordered that Jilin's military officials carry out a seasonal inspection of the mountain, sending any migrants caught beyond the kalun's 494 boundaries to be punished.495 "Unobservant 失察" officials would nevertheless continue to allow migrants to sneak by the guard posts. This would result in the arrest of several individuals in 1833, seven years later.496

By 1890, when the Jilin Military Governor sent down an order to search the mountains for migrants, the Daoguang emperor had been dead for over forty years. And yet, the military governor does not cite edicts from any of the following imperial households of Xianfeng (r. 1851 - 1861), Tongzhi (r. 1862 - 1875) or the present Guangxu (r. 1875 - 1908). Little evidence suggests that the initial edict was carried out with any fervor in the intervening decades. Apart from the 1883 case of bribery by timber merchants above,497 I have found no example of any attempt to enforce regulations against felling on Qing Banner lands in Jilin Territory.

Those cases of illegal felling for which there is documentation largely exist for other reasons aside from the issue of logging. The 1883 memorial cited above describing an instance of illegal felling clearly stated the amounts paid to bribes to the local inspector, but neglects to mention how much timber was lost to the merchant's axes.498 In 1888, when the great Qing self-strengthening statesman Li Hongzhang (1823 - 1901) chided Korean officials for failing to prevent their nationals from felling trees in Jilin's Hunchun Settlement, the text suggests the greater concern lay with their intention to sell Qing timber products in Korea as opposed to the practice of logging itself. The loggers had already felled the trees, cut the logs into boards, and shipped them down the river by the

494 Originally a border control station, by the mid-nineteenth century kalun also referred to checkpoints at the entrance of designated mountain zones.
495 Jilin Provincial Archives 1-16-1963
496 清實錄，道光實錄 106.43（1833年）
497 First Historical Archives, 04-01-01-0948-016; Jilin Provincial Archives 1-8-50
498 First Historical Archives, 04-01-01-0948-016; Jilin Provincial Archives 1-8-50
time Hunchun's border guards intercepted them. In their report, the guards were forced to admit that this had become a long-standing practice along the Qing side of the border, with groups of Korean loggers controlling territory in and around the Gaya River's Southern Hill 嘎雅河南崗. With "only a river as a boundary to separate [our territory from Korea, anyone] can ford [it] at any point and cross [the boundary]," the border guards complained. 499 Along the Korean border in southern Fengtian, even the imperial household abandoned all pretext of forbidding logging in the region's densely forested mountains with the implementation of a timber tax in 1875. 501 The Northeast's forestland, with only a few exceptions, was for the people.

By the end of the nineteenth century the vast majority of the Northeast's forestland served as a communal area that anyone could log, farm or protect, as they saw fit. Even when local officials proved relatively motivated to protect certain patches of land, the lax administration of forbidden mountains meant that the system was far from efficient at preventing the illegal felling of the Dynasty's trees by merchants eager to sell timber Jilin's growing market towns. Nevertheless, they appeared efficient enough for Jilin's mid-nineteenth century officialdom. The few publicly known instances of bribery and fraud such as the one mentioned above did not prompt military officials to reevaluate the system of protecting trees on mountainous terrain from merchant axes. Rather, the blame for the forbidden mountain system's failings fell squarely on the shoulders of greedy merchants, corrupt officials, and wicked people. One could easily procure timber in the Northeast through legitimate means, officials assumed. Only the morally corrupt would violate the boundaries laid out by imperial decree.

III. Creating the Forest, Policing the Forest

Only in the first years of the twentieth century, following the mass Han and Korean migrations of the 1890's and the growth of Russian and Japanese commercial interests in the region, did Jilin's officials begin to question the forbidden mountain system itself. Chapter 1 argued that the arrival of the Russian and Japanese-controlled railroads around the turn of the twentieth century fueled interest in the timber industry on the national level. This chapter will show the effects these lines had on Jilin's forest cover, political economy, as well as conceptions toward forested space. Prior to the advent of the railroad, Jilin's timber economy had been highly localized. China was no stranger to long-distance timber transport. The scarcity of timber resources along the eastern seaboard beginning in the Ming Dynasty (1368 – 1644) had lead the Ming Dynasty to create an extensive system of canals that transported timber from the lush Southwest (Yunnan, Guizhou and Sichuan Provinces) to Beijing. In the Ming, it took five to six years for imperial timber to travel to

499 僅隔一江為限，處處皆可渡越
500 Academia Sinica, Foreign Affairs Archives, 1-41-31-3
501 First Historical Archives, 1337-1-190

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Beijing from the time it was felled. Typically, only ten to twenty percent of the timber survived the trip.502

However, the difficulties of timber transport during Manchuria’s Siberian winters, the Manchu desire to preserve the Northeast’s ecology, as well as the necessity of forestation to maintaining many of the region’s natural resource industries all conspired to keep Manchurian timber from becoming integrated into the national resource economy. As discussed in Chapter 1, the Qing’s national borders, particularly the border with Choson Korea, served as a notable exception to the localization of Manchuria’s timber economy. Choson Korea’s strict forest management policies encouraged the flow of Manchurian timber into Korean territory, particularly in areas where the natural feature that served as the border marker offered little resistance. The Tumen River (图们江), which defined the border with Korea north of Mt. Changbai, was shallow enough in parts that timber traders could cross it with little difficulty should they want to evade border patrols. The result was a heavily denuded border zone, the sight of which was enough to anger Jilin’s officials. The border with Russia experienced a similarly high (though more one-sided) rate of deforestation following the Boxer Rebellion (1899 – 1901), when Russian troops began to be regularly stationed at the border.

The arrival of the railroad to Manchuria brought two significant trends from the border to the interior. First, it brought rapid and visible deforestation. This process extended well beyond the cutting of the timber required for the immediate construction of the line, such as railroad ties, utility poles, and bridge beams. Russian and Japanese merchants actively worked to establish a vibrant export economy in timber. With the exception of the short Jilin-Changchun line, all of the railroad lines in Manchuria were controlled by companies owned wholly or in great part by the governments of Russia and Japan. Both railway companies had negotiated the rights to manage and extract resources from the environment in the immediate vicinity of the lines.

This direct foreign involvement in resource extraction over long expanses of territory in Northeast China had significant consequences for Chinese forests. Many Banners, migrants, and even foreigners proved particularly eager to sell timber to the railroad companies, fueling deforestation in the areas with easy contact to the railroad lines. This included remote areas previously unaffected by the deforestation trends related to migration and agriculture, as well as areas along rivers that could be used to transport timber to the railroad lines. Manchuria’s railroad lines thus had the effect of sucking Manchurian timber out of the interior and flushing them into the foreign market. What may have once been remote national borders became, in practice, ubiquitous.

Second, as we will see in the case of the Chinese-owned Jilin-Changchun line, the alarmingly quick depletion of resources sparked by the arrival of the railroads compelled both officials and local residents to put their resources behind the preservation of specific forested zones. These concerns for forestation levels could be for economic, aesthetic, moral-ideological, or any combination of these reasons. Whatever the motivations, they had the effect of promoting a belief in the connection between Jilin’s identity and

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502 梁明武。明清时期木材商品经济研究。北京：中国林业出版社，2012 年，29 页。
forestation. Jilin – the province of the auspicious woods – was both valuable and beautiful for its vast, contiguous forests. This belief drew upon local and High Qing beliefs in the weji as vital to protecting Jilin’s land.

The renewed official concern for the preservation of Chinese woodlands lead to the establishment of clearly demarcated zones where all large-scale logging projects without official sponsorship were prohibited. To combat the effects of a new and foreign technology, officials looked to the foreign idea of the forest as a way to conceptualize the role of woodlands in a modern world. Much like a technology, the concept of the “forest 森林” stood to facilitate more effective woodlands governance in an era of increased global contact. It allowed officials to begin to think of administrative preservation as about preserving forest density in addition to forest cover. Furthermore, it allowed officials to justify woodlands as belonging on land that could be ideal for agriculture, namely flat valleys. This would become especially important in the final years of the Qing, when the national push to turn wasteland into taxable agricultural land further threatened forestland. Finally, the idea of the “forest” had the added advantage of allowing officials in remote areas to conceive of their own administrative practices and landscapes as part of...
something greater than themselves, whether that be the globe or the emerging nation-state. Unlike the *weiji*, which could only describe the vast network of woodlands native to Manchuria and the ecosystems they support, every country in the world could and should have forests.

In this new political climate of forest preservation, locals and merchants were able to mobilize government resources toward protecting their rights to preserve, exploit, or sustainably harvest forestland. Knowledge of the correct terminology – namely the word “forest” and its connotations – was critical to success in mobilizing these resources. For hunters, this assistance could come in the form of an officially sponsored forest police force (森林巡警) to prevent logging and controlled burns from harming local wildlife populations. Timber merchants were able to invoke the concept of the forest to lobby for exclusive logging rights in certain densely forested zones, just as an emerging class of Qing and Republican foresters were able to reject these proposals on the basis of the area’s lack of forest density. The opposite was also true, as we shall see in one Republican case where one timber merchant invoked the mountain’s lack of forest density to refute the Province’s legal claims under the Forest Law of 1914. The word “forest” thus stood at the center of a changing physical and ideological wooded landscape, in which the people of Jilin struggled to establish the nature and role of wooded spaces in the twentieth century.

As the Qing state had removed itself from the ginseng industry toward the end of the Daoguang era (1820 – 1850), the official struggle to combat deforestation before the arrival of the railroad was concentrated on the border. In their hunt for the ideal cut of timber or patch of arable land, loggers tended to take advantage of the difficulties in policing resource extraction across national borders. By the turn of the twentieth century, officials bemoaned that the settlement of Linjiang (臨江) along the Korean border had nothing but: 503 “red mounds and bald mountains, waste and weeds as far as the eye can see.” 504 Russian merchants even took advantage of the border by employing groups of Chinese migrants to log in Korean territory in 1903. The Choson imperial government demanded that the Qing capture these bandits. However, the Qing claimed that nothing could be done, as the local topography and the permeability of the border proved too difficult to control. 505

In northern Heilongjiang, Russian soldiers and migrants were also taking advantage of the permeability of the Chinese border to log on Qing soil. The result was a visible line of deforestation along the border, though this process differed from that along the Korean border. Here, the Russian side was left relatively untouched. In 1907, Xu Shichang (徐世昌) 506 complained that local Chinese officials looked on apathetically while

504 赤壤童山，荒蕪极目
505  Academia Sinica, Foreign Affairs Collection, 2-10-8-7-6
506 It will be remembered from Chapter 1 that Xu Shichang was the adopted brother of Yuan Shikai. He served as the Governor-General of Manchuria from 1907 to 1909 and the President of the Republic from 1918 to 1922.
Russians laid waste to the mountains in Qing territory. As evidence, he cited the following memorial written by a local official:

The stretch along the river is barren and desolate for a thousand li . . . When the Russian troops crossed the border [in 1900], the large trees in the area along the river were all cut down until none remained. As the years passed, they [logged] both near and far, going further and further into the mountains . . . Across the river in Russian territory, [I saw] a lush and beautiful forest [where] large trees still live. The merchants and people in Russian territory have ceased to buy wood produced in the forest to the point that they do not fell there. [Instead,] they continually cross the border to log, [the workers] streaming along the roads. In this I have found the source [of the deforestation problem].

To create a convincing narrative that would mobilize his superiors into action, our memorialist uses some of the same strategies as the Assistant Military Governor had in his attempts to preserve forestland in 1835. The official used visual imagery to paint the image of a ravaged and ugly landscape. In this case, the Qing’s “desolate and barren 荒涼” landscape stood in direct contrast to the “lush and beautiful forests 森林茂美” across the border in Russian territory. This latter phrase in particular revealed the memorialist’s familiarity with the language of modern forestry. Literally translated, the phrase reads “forests, beautiful for their lushness.” In other words, the beauty of the landscape could be a barometer for the wealth and effectiveness of a modern state.

That beauty, in turn, came from the presence of dense forests that filled one’s line of vision. In the case of the Russian border, phrases that evoke distance, such as “both near and far 由近及遠” and the undoubtedly hyperbolic “for a thousand li,” further served to encourage the reader to place himself in the deserted panorama. The phrase used above to describe the Korean border – “waste and weeds as far as the eye can see 荒蕪極目” – similarly called upon the reader to be alarmed by the panorama, as opposed to arguments of theft or economic loss.

This narrative that used modern forestry language, as well as appealed to both the visuality and inequality of the transformation, proved partially effective. As will be recalled from Chapter 2, it inspired the Governor General of Manchuria, Xu Shichang, to plead with the imperial household to send troops to guard the border as they had before the Boxer Rebellion (1897 - 1901). However, the imperial household refused to grant this request due to the financial burden of the Boxer Indemnity.

The continued expansion of the Russian-controlled China Eastern Railway facilitated Russian expansion into the interior. Manchurian officials proved both eager to

507 Foreign Affairs Archives, Institute of Modern History, Academia Sinica, ROC. 02-04-041-02-022
508 沿江一帶，千里荒涼。。。自俄兵入境後，近江地方，大木已砍伐無餘。年來由近及遠，入山漸深。。。對江俄境地方，森林茂美，大木叢生。俄境商民，置已山所產之林於不伐，仍復過界砍木，絡繹道途，推原其故。
510 Foreign Affairs Archives, Institute of Modern History, Academia Sinica, ROC. 02-04-041-02-022.
profit from and protect against the intensification of logging practices that came with the arrival of the railroad. Though most recognized the two could go hand in hand, some officials proved more concerned with profit than protection. To these officials, the woodlands were not a source of beauty or a symbol of strength, but rather economic power. Or, at least, if they held any reverence for the woodlands for their spiritual, ecological, or aesthetic benefits, they masked such beliefs with the rhetoric of the Qing's economic rights.

In 1905, the Military Governor of Heilongjiang sent up a request that imperial household lift bans on logging along the Chaole 綽勒河 and Taoer Rivers 淘爾河, both of which flowed near the Xing'an Mountain Range 興安嶺. The original memorialist noted that the region had previously been reserved as a hunting grounds for the Buteha 布特哈 soldiers. However, the arrival of the railroad to this place where the "woods are extremely luxuriant 林極為繁盛" meant that the soldiers were "cut off and could not go forward [into the woods] 阻隔不能前往." As the trees held high value to the railroad company, locals had succumbed to temptation and logged in the restricted zone. Put another way, our memorialist had long since ceased to respect logging prohibitions established by the Qing, whether due to inadequate resources or desire.

Yet, the memorial continues, even Banner logging was not enough to sustain the railroad company. The foreigners themselves had begun to "cast greedy eyes 觀覷" upon these trees. The memorialist suggested that the imperial household remove the restrictions against logging and allow officials to directly manage and control all logging operations along these two rivers. Otherwise, "I deeply fear that our economic rights [to the trees] will flow out [of the country] 深恐利权外溢." Unlike the memorial cited above that related to the Russian border, the situation along these two rivers is described purely in economic rather than in visual terms. The memorialist argues that logging was a natural and practical consequence of changes in the local environment. He further justifies their violation of imperial decrees by pointing to the density of the woodlands with the phrase "the woods are extremely luxuriant 林極為繁盛." However, little effort is spent to inspire the same kind of visual and panoramic experience provided above. In this account, only the Russians saw the trees, but they saw it through the gaze of economic greed rather than wonderment. Their gaze provided the final piece of evidence needed to convince both the Governor and the imperial household that direct management of the area’s logging industry was an absolute necessity. With every log that came under foreign control, China’s economic power dripped away like water out of a leaky barrel (外溢). The only way to combat the railroad’s ability to deprive Heilongjiang of its resources was for officials to take direct control themselves. In the age of the Russian-controlled China Eastern Railway, according to these officials, economic control over resources was more important than the High Qing

511 Located in today's Inner Mongolia.
512 First Historical Archives, 04-01-01-1074-066
513 Ibid.
ideals of woodlands as a source of natural beauty, preserving traditional lifestyles, and maintaining access to material goods such as pelts and ginseng.

To what extent is the trend toward greater official involvement in managing the timber industry a result of the introduction of the railroad, and not the increased presence of foreigners? The China Eastern Railway was not the first railway to lead to desertification in world history, nor would it be the last. In his book *Transforming the Appalachian Countryside*, Ronald Lewis explores how the arrival of the railroad radically transformed the West Virginian economy and way of life. Like Manchuria, this change occurred rapidly, turning a vibrant hunting and fishing economy to one that depended on capitalist industries such as logging and mining. Is there, then, nothing to be learned from yet another tale of official responses the fated fall of traditional economies and virgin forests?

Jilin’s unique geography and history makes it an ideal case to sort out such issues. Due to its largely mountainous and densely forested topography, as well as the Province’s distance from both the seaports, the railroad lines did not initially pass through most of Jilin’s territory. This left its forests comparatively safe in the initial period of construction, especially when compared to Heilongjiang. In 1902, the Military Governor of Jilin announced he founding of the Chinese-funded Jilin-Changchun Railroad Company in order to pre-empt Russian control over all of Jilin’s rail transport. In so doing, he also sought to connect the old hunting-fishing-logging economy centered around Jilin City with a new, emerging, capitalistic economy centered around the railroad town of Changchun. As the company was managed and funded by Chinese merchants, no concern was given to the outflow of China’s resources to foreign powers. The sole concern lay with the expansion of logging that would accompany the rise of the railroad, as well as the threat this might pose to the forbidden mountain zones officials had set aside.

In 1904, the Governor of Jilin declared that all those who sought to fell trees in Jilin’s mountains, whether for commercial or personal use, needed to be licensed so that their wares could be subject to taxation by the Mountain Subbureau. However, certain forbidden mountain zones, such as that of Mount Gong, would continue to receive military protection from popular logging. The Military Governor also ordered that Mount Gong be surveyed, because "the [Jilin-Changchun] Railroad Company's contract states that all trees on forbidden mountains are categorically prohibited to log . . . if we do not clearly declare [the boundaries of Mount Gong to the public], the agreed-upon regulations will not be followed." The Governor similarly vowed to instate comprehensive licensing and taxation policies in an effort to restrict commercial logging practices. In other words, it did not matter whether logging was accomplished by foreign or domestic companies, Jilin’s officials only viewed clear boundaries as a critical

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515 Jilin Provincial Archives, 52-1-100
516 鐵路公司合同內載凡係禁山木植一概不准砍伐[sic]。。。若不明示定章程則無所遵
517 Jilin Provincial Archives, 52-1-100
necessity when faced with the threat of the railroad's incursion. The intensity of the logging thus proved just as important as the nationality of the loggers themselves.

In establishing new logging restrictions to prevent access by a Chinese railroad company, Jilin’s officials had to contend with the fact that the woodlands were more than a source of economic profit. Jilin’s Agriculture Experimental Station recorded temperature lows of -33.5 C for December of 1916.518 For all who lived there, access to woodlands was a matter of survival. The Department of the Military made the case that many of the area's poorest residents relied upon woodlands to collect firewood in preparation for the harsh winter. They suggested that the Military Governor exempt such practices from timber inspections "out of compassion and pity for the poor."519 The military governor agreed, exempting even "large carts and sleighs" carrying firewood from restrictions and taxation policies on all of Jilin's mountains, including Mount Gong.520 This meant that all inspections and policing would be focused on limiting the scale of commercial logging, especially those operations that might serve the emerging export economy. The woods should still serve as communal resource, as is evident by the complete lack of restrictions on collecting firewood.

Despite the implementation of preventative measures, the demand for timber to fuel the railroad's physical and economic expansion seeped into Mount Gong. Contrary to official expectations, the simple declaration of forbidden mountain zones did not stop professional Chinese loggers – or muba 木把 – from entering the territory. In 1906, four logging families prepared to bring 4,593 cuts of timber down the mountain to sell to the railroad company. Only when they were approached by a routine military patrol did they “suddenly” realize that they had been felling on Mounts Gong and Daji 大雞山, both of which had been declared forbidden mountains.

Realizing the seriousness of the matter, the loggers pleaded for mercy with the aid of a bribe. They stated:521 "as there were no clear borders, [we] mistakenly entered the forbidden mountain and felled the forbidden trees. As soon as [we] realized [we] were at fault, we willingly prepared amongst ourselves five hundred diao in city money to serve as a fine."522 The excuse seemed plausible enough to the military governor, who declined to prosecute the loggers for their crimes. He declared once more that local officials should establish and patrol clearly marked boundaries on these forbidden mountains so that no further misunderstandings could occur.523 The loggers may have lost five hundred diao as well as the 4,593 cuts of timber they had labored over all spring, but at least they had escaped prosecution. The opaqueness of the borders provided officials with an excuse to accept a fine during a time when the Dynasty’s finances were in dire straits. Yet this did not mean that the Province shied away from defending the forbidden mountains. The

518 王士瀛主编。吉林省农事试验场民国五年第八次成绩报告。[吉林市？]，1917 年，第 32 页。
519 Jilin Provincial Archives, 52-1-100
520 Ibid.
521 Jilin Provincial Archives 1-32-2023
522 因不明界限，誤入禁山砍伐禁樹。始覺有罪，情甘共備市錢五百吊作為領罰
523 Jilin Provincial Archives 1-32-2023
Provincial Governor ordered local officials to clearly demarcate the borders through signage so that such "misunderstandings" could not happen again.

Other cases of illegal felling brought the surprising revelation to Jilin's officials that the profits to be made in the logging industry had begun to tempt people of a variety of social classes. Though the Province had made concessions for subsistence logging, they had failed to realize that the railroad provided a tempting opportunity for the poor to move beyond subsistence living. That temptation proved altogether irresistible when the value of the region’s timber is taken into account. Another patrol of Mount Gong resulted in the capture of two men who had cut down twenty-one of the region's rare red pine trees (红松), which provided particularly valuable slabs of timber.524 This time the offenders were not professional muba, who could afford to pay a large fine and potentially cut their losses on a winter’s worth of labor. In 1906, the pair of migrants from southern Fengtian Province stumbled into the forbidden mountain zone, having heard from acquaintances that the region contained trees that would fetch a high price. In their confessions, they claimed that they were quite poor and had little other hope of earning a livelihood. The prosecuting officials accepted both their poverty and purported ignorance of the forbidden mountain zone's boundaries as mitigating factors when determining the extent of their guilt.525

The forbidden mountain system had worked relatively well to protect woodlands from the increase in logging due to the growth of agriculture and construction projects. The proof lay in the fact that there were still valuable logs to steal from official land. The belief in the forest as an ecosystem that could support the livelihood of Banner troops had encouraged officials to put resources behind the protection of specific forbidden mountain zones. Yet the old methods of policing woodlands were falling short in the age of the railroad. The case of Mount Gong showed officials the necessity of establishing clear borders around land under official protection. Sporadic policing via checkpoints was also not as effective to combat timber theft as it had been for ginseng. Ginseng, once confiscated, could be replanted and easily sold or submitted as tribute. Timber could not be replanted, and large quantities were not quite so easily disposed of. In the first case described above, lack of experience in timber sales forced the officials to give the logs back to the Jilin-Changchun Railway Company. The profitability of the enterprise meant that the enemies of the woodlands had broadened to include the poor and disenfranchised, a category that applied to the vast majority of migrants traveling to this land of opportunity. However, unlike the case described above in Heilongjiang, no attempt was made to transform forbidden mountains into logging zones managed or operated by officials in response to these threats to the land. That response would be reserved for areas threatened by foreign logging, of which there would be many in the coming years. Just as Jilin's officials began to contemplate a new way to organize forested space, one was thrust upon them. The idea of the forest would address the problems presented both by the railroad as a technology and foreign powers as an economic force. Yet its solutions would also fit in with the tradition of the weji. The forest would establish clear boundaries delineated by the presence of trees, rather than abstract topography. This

524 Typically referred to as the Korean red pine in English (Pinus densiflora).
525 Jilin Provincial Archives, 1–33–2447.
was more in keeping with the tradition of the *weji*. A mountain could still exist without trees, but both *wejis* and forests could not. A mountain could be sparsely forested, but the *weji* and the forest by nature could not. The key difference between the forest and the *weji* lay in the former’s association with the foreign, whether that be foreign landscapes or foreign economies.

As will be recalled from the previous chapter, Xu Shichang, with support from Yuan Shikai, ordered established the Fengtian Forest School 奉天森林學堂 in 1906. In the hope of attracting young, strong, healthy students to their program, as well as spread knowledge of forestry throughout Manchuria, the Governor of Fengtian Province invited Jilin and Heilongjiang Provinces to send students to attend. The invitation included detailed descriptions of the importance of forestry to the region, particularly in light of the transfer of control of the southern portion of the China Eastern Railway to Japan following Russia’s defeat in the Russo-Japanese War (1904 – 1905), as well as the concomitant establishment of the Joint Sino-Japanese Yalu River Logging Company in southeastern Fengtian.

The invitation begins by defining the *senlin-forest* as "the benefit of nature 自然之利," but nevertheless one that few Chinese are familiar with. Though China has many books on the art of "planting [trees] 树藝," their lack of interest in the matter has resulted in "thick groves becoming barren mountains 茂林變童山." The inclusion of the word "thick (mao 茂)" – a synonym for "dense (sen 森)" – emphasizes the importance of tree density in defining forests. At the same time, the reference to the "barren mountain" allows the Chinese reader to begin to understand it within the ideological framework of "forested mountains, agricultural plains" expounded throughout the Ming and Qing Dynasties. Nevertheless, the more detailed description of the Fengtian Forest School's proposed projects makes it clear that the forest should not be limited to China's mountains. Students at the school will have a "practice grove 演習林" located along the banks of the Yalujiang River. There, they will learn how to bring the forest to the "open spaces 隙地" that the authors argue covers much of the Northeast. These open spaces could be anywhere and everywhere, meaning that the forest could similarly have no topographic restrictions. As such, the presence of a dense grouping of trees, rather than solely mountainous topography, defined the parameters of the modern forest. The parameters of forested space had thus been broadened from that of the mountain.

The invitation to Jilin and Heilongjiang explains, in this age when foreign eyes covet Chinese trees, protecting the Northeast's most valuable "forests" was of critical importance to the Dynasty. This text introduces yet another new phrase to the Chinese reader: *linzheng* 林政, or "forest governance." This, the author argues, was necessary to create a wealthy country in the face of Russian and Japanese territorial incursion. Germany, for instance, had gained its power through the protection and proper management of its forests. Yet, unlike the "forbidden mountains," governing forests

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526 Jilin Provincial Archives, 33-1-231
527 Ibid.
528 Ibid.
required specialized technicians. As China lacked such knowledge, it was thus regrettably necessary to hire a Japanese forester to train them.\textsuperscript{529} As such, the author argues that seeing the forest from the trees and from the mountains was a learned behavior, and not one that necessarily could come naturally to the average Chinese person. Put another way, the invitation considers the forest to be the product of a specific style of foreign education, rather than part of the Chinese tradition.

In light of this evidence, what are we to think, then, of this sudden introduction of the word "forest (\textit{senlin 森林})" to the Northeast's administrative lexicon? Is it simply a new word with which to dress up minimalistic changes to old programs? Or does the introduction of the term "forest" signal a transformation in the ways officials conceived of forested space? In his seminal trilogy \textit{Confucian China and its Modern Fate}, Joseph Levenson wrestled with a similar set of questions. Levenson concluded that China's contact with the West resulted not just in the creation of a new vocabulary, but also in the formation of an entirely new grammar with which to interpret the world. Simply put, while prior interactions with non-Han peoples may have resulted in the introduction of new words to the Chinese lexicon, only interactions with Western thought resulted in radical transformations to the way Chinese fundamentally thought. For our purposes, the most important transformation Levenson notes is the shift from the "amateur ideal" of the late imperial period to the "modern"/Western/scientific value of specialized knowledge.\textsuperscript{530} If Levenson is to be believed, we should thus see the very introduction of the idea of the "forest" as a critical turning point in and of itself.

Nevertheless, this does not mean that the introduction of this new term managed to completely and permanently alter all Chinese perceptions of the role and nature of forested space. Rather than creating a new spatial "grammar" in the Levensonian sense, the "forest" simply represented a new word to be used along with the old. The usage of the word "forest" simply marked a shift in the Northeast's administrative priorities. For example, Jilin and Heilongjiang Provinces' first incorporation of the term "forest" into official parlance similarly aimed at marking the project's significant departure from the era of the "forbidden mountain."

As the Northeast's regional officials had already been involved in the division, management, and procurement\textsuperscript{531} of goods in forested areas, very few of the regulations were completely new. Like that of the forbidden mountain system, the Jilin-Heilongjiang Bi-Provincial Forest Company's territory would be defined vaguely. The text merely states that certain areas, such as Harbin, Sanxing 三姓, Xindian County 新甸縣, and Mulan County 木蘭縣 should house branches of the company. However, the very ambiguity of its definition implied that forest coverage, rather than its proximity to a specific mountain

\textsuperscript{529} \textit{Ibid.}


\textsuperscript{531} With regard to this last point, see Chapter 1. The introduction of telegraph lines constructed with the use of national funds to the Northeast in the final two decades of the nineteenth century necessitated that officials in all three territories play active roles in procuring the necessary cuts of timber. This, as I argued, meant that after this period governance in the Northeast required a greater understanding of and interest in its forest distribution.
or mountain range, might serve as the key defining element. Like the forbidden mountain system, the Bi-Provincial Forest Company's purpose was to restrict the use of certain types of goods. In the case of the former, the target of exclusion was migrant agriculturalists.

But one of the Bi-Provincial Forest Company's stated purpose was to keep Chinese timber from falling back into foreign hands. The memorial states:532

The number of logging bosses [in the region] has already reached over two thousand. [Currently,] the vast majority of the profits are controlled by our [Dynasty]. In earlier times, Chinese people were not allowed to go into the mountains. Now, they grasp their axes and set upon their task like horses. Without a company to fight for their cooperation, I fear that once the wood leaves the mountains it will once again be forcibly bought by foreigners.533

In order to accomplish this, the Bi-Provincial Forest Company's territory would be guarded by a "forest police 森林警察" comprised of local braves (勇), as opposed to the forbidden mountain system's rotating groups of soldiers.534 As such, though the new provincial "forest company" posited a new definition of territorial boundaries, directed its efforts at minimizing the effects foreign exports, and introduced the concept of a local police, in many respects it should be seen in continuity rather than opposition to older forms of woodlands management.

In the end, the Jilin-Heilongjiang Bi-Provincial Forest Company floundered before it could even get off the ground. The venture depended upon the sale of shares to the provinces' merchants, yet officials complained of the lack of interest in investment. Perhaps, like children, the merchants did not yet fully appreciate the benefits of this new approach.535

Although the two provinces of Jilin and Heilongjiang have a number of substantial merchants, their interest [in investing in the Bi-Provincial Forest Company] is not great. [They find it] difficult to think of the public [good] and think [instead] of their individual schemes... As such, for commerce to flourish in Jilin, officials must advocate and take the lead. This is just like [when] small children [take] their first steps they need someone to support them. But over time through taking [many] steps they become healthy and strong, and they can leap and bound on their own. How is the situation with the merchants of these two provinces any different?536

In spite of their hopes to guide the merchants into making "leaps and bounds" for the public good, most seemed hesitant to support a timber venture run by officials with very

532 Jilin Provincial Archives, 1-32-2001
533 把頭已達於二千人以上, 絕大利源為我自握, 華人先時不得入山伐木者, 今皆操斧斤以從事焉, 無公司為之搏合, 恐出木之後又為外人掯買。
534 Ibid.
535 Ibid.
536 吉江兩省雖有巨商, 而志趣不大, 難謀公立, 其為個人計也。。。故吉江之辦商務, 必須官為提倡, 舖之小孩初步, 需人掖之, 而行久步康莊, 自能跳躍, 兩省商人情何以異此?
little experience in the timber trade. Even the officials' incorporation of foreign vocabulary and methods did not convince the merchants of the Company's profitability.

As the Bi-Provincial Forest Company still failed to gain sufficient financial backing from ignorant and selfish local merchants, eventually both provinces elected to shift tactics in their attempt to enter the timber industry. In Jilin's case, the Province established its own Forestry Bureau 林業局 in 1907. Nevertheless, in spite of its efforts to enter the timber industry for itself via the Forestry Bureau, Jilin Province continued to allow merchants to apply for timber licenses. With the establishment of the Circuit for the Promotion of Industry 勸業道 under the jurisdiction of the newly founded central Ministry of Agriculture, Industry and Commerce 農工商部 in 1908, merchants were required to apply for these licenses at the provincial level, as opposed to the local level. This would ideally allow the provincial government to keep track of the state of its forest resources. Yet, as such merchants were seeking to compete with the Forestry Bureau for a share of the profits, their petitions were expected to justify their projects' ability to meet goals desirable to officials.

The Ministry of Agriculture, Industry and Commerce thus also served as both a source of knowledge about modern forestry, as well as an enforcing agent that secured the compliance of Jilin's officials with this new approach toward understanding and managing forested space. From 1909 to 1911, the newly established Ministry of Agriculture, Works and Commerce 農工商部 ordered provincial officials to conduct surveys on industries deemed to be of critical importance to the development of a strong and modern Chinese economy. As Tong Lam pointed out in his research on the Qing state's 1909 foray into cadastral surveys, such projects served as part of a larger administrative trend toward creating a "culture of facts" that emerged beginning in the final years of the Qing. The 1911 iteration of these surveys largely focused on current market conditions for international trade, as well as efforts to improve domestic industry and agriculture. Only in the case of "forests (senlin 森林)" did the Ministry show concern for the state of China's natural resources.

This was not the first time that officials in Jilin had conducted surveys on forest conditions. In 1908, for example, an application for a private timber operation had been rejected as a result of a "survey 調查" undertaken by foresters belonging to the Jilin Provincial Forestry Bureau that found the trees in the region to be too young to log. However, such efforts were generally impressionistic and not systematic. They did not generally involve the creation of legible maps of forested zones, nor were such reports designed for anything other the convenience of local officials. As such, there was no need to create even a loosely standardized definition of what constituted a forest.

537 吉林省志，卷 17，林业志。长春：吉林人民出版社，1994 年，第 722 一 724 页。
539 Jilin Provincial Archives, 1-37-4451
540 Jilin Provincial Archives, 10-2-205
In May of 1909, the Ministry of Agriculture, Works and Commerce sent down the first order to the counties in Jilin Province to conduct surveys of the forests in their jurisdictions. The order argued that forest surveys would be a method for "invigorating the forestry industry" in Jilin Province. Such surveys should also include a textual analysis and a map, though the Ministry offered no specifications for how either should be accomplished. It further asked local magistrates to survey both the "innate, natural forests" as well as "areas suitable for reforestation." The latter in particular resulted in a more specific set of surveys that compelled local officials to understand local tree breeds and soil conditions. For instance, the magistrate of Huadian County in central Jilin, to which both Changchun and Jilin City belonged, declared that the soil in his county was "black earth" variety. As such, it was best suited to planting firs, pines, Korean red pines, poplars, walnut trees, and trees of Heaven (Chinese toons).

The term the Ministry chose to employ for "natural" was tianchan 天產, which literally can be translated as the "products [or property] of Heaven." This differed distinctly from the word tianran 天然 – meaning "Heaven-like" – which served as the more common term to describe "natural" in the early years of the twentieth century. As the emperor was the "Son of Heaven" who ruled over "all under Heaven," framing naturally-growing forested space as "the products of Heaven" invited a clear association between natural woodlands and Dynastic control. No more would the Dynasty only exert control over only mountains or "official" land. Rather, any land that held natural forestland, no matter its topography or state of ownership, could become the property of the Dynasty. These rights could be expanded upon through officially sponsored reforestation projects. The emphasis on the idea of products (chan 產) further emphasized Dynastic control, as it allowed the term to serve as a parallel for "agricultural products." While agricultural products were naturally the property of the farmer, the "products of Heaven" belonged to the Dynasty.

Though the Ministry did not explain its thought process in this matter, Jilin's county magistrates mostly understood the message. In addition to the surveys that complied with the Ministry's request to survey natural forests, the majority of forest regulations also emphasized the fact that all natural forestland in their jurisdictions belonged to some level of higher government, whether this be the Dynasty (guo 国) or the Province. Huadian County's forest police serves as the only noteworthy exception, simply noting that forest police would patrol "in each of the wooded areas where the trees are dense." In no instance does the proposal overtly recognize any Dynastic claim to Huadian's forests. Although the distinction between natural and dense forestland at this time period was most likely negligible, Huadian County's choice to privilege the ideal of

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541 Jilin Provincial Archives, 1-35-6266
542 Referred to in scientific literature as chernozem.
543 Jilin Provincial Archives, 1-37-4441
544 This was the term most commonly used in the works of late-Qing thinkers such as Yan Fu and Liang Qichao. As we shall see below, even officials such as Jilin's local magistrates used tianran over tianchan.
545 Jilin Provincial Archives, 1 - 37 - 63.
density puts it in the tradition of post-Boxer Rebellion Northeastern regional officials cited above. When the Heilongjiang border official cited by Xu Shichang bemoans the destruction of Heilongjiang’s dense forestland by Russian soldiers, he does not care to mention whether these forests were natural or artificial.546

However, the idea that Chinese governments should have the right to control all that is "natural" while the people (民) should control all that is artificial even appealed to county magistrates in remote locations with a limited agricultural presence. Linjiang Prefecture 【臨江州】lay along the Korean border near the famous Mount Changbai. In its response to the Ministry of Agriculture, Works and Commerce’s 1909 call for forest surveys, Linjiang Prefecture noted that it had largely been left out of the recent political and economic push toward reclamation.547

We respectfully submit that since ancient times the land in this prefecture is extremely remote and barren, lying on the border with Korean residents. For over a thousand li from East to West this entire tract of land produces trees. These are truly natural, intrinsic forests. We are presently looking for a people to serve as soldiers and reclaim the land. [Yet] we worry that clearing the undergrowth would not be easy. If we could pay more attention to cultivating [our trees], everywhere would become [a site for] forestry. We would not need to select area to reforest.548

Further in the text, the reporting official continues to emphasize that the Prefecture's forests as "all so lush that they hide the sun, [meaning that they] are natural forests 皆屬陰翳蔽日,為天然森林."549

By emphasizing the natural aspect of the Prefecture’s forests, the reporting official aligns Linjiang’s goals to turn the region into a center for forestry with the new focus of the Ministry of Agriculture, Works and Commerce. He expresses hesitancy to allow the expansion of cultivated land in his prefecture as required by the country-wide push toward reclamation outlined in the previous chapter. Yet this does not mean that these natural forests would be protected for the sake of their beauty or intrinsic value alone. Rather, through "pay[ing] more attention to cultivating" the Prefecture’s trees, they would become sites for sustainable forestry without the need to reforest any land that had initially been lost to agriculture.550

The official forestry arm of the Ministry – the Jilin Provincial Forestry Bureau – also served as a way for the Qing to both manage and participate in Jilin’s emerging forestry industry. By directly controlling the loggers (木把) and acting as the timber merchant, Jilin could ensure that timber profits remain within the province and even within China by forcing the products to head south along the rivers instead of north and east to the

546 Foreign Affairs Archives, Institute of Modern History, Academia Sinica, ROC. 02-04-041-02-022
547 Jilin Provincial Archives, 1-35-6214
548 遵查州地自古來極邊荒徼，境鮮居民，東西千餘裡間遍地皆產樹木，實為天產固有之森林。現在招民屯墾，正慮芟除之不易，若能加意培養，處處即成林業，毋庸擇地再造。
549 Jilin Provincial Archives, 1-35-6214
550 Ibid.
borders. Yet by 1910 the Bureau had been shut down due to poor management, popular resistance, and the perils of river transport. Forestry Bureau officials proved unable to convince locals to submit to its authority in matters of timber production, and either unwilling or unable to enforce this authority through physical force.

In their indiscriminate attempts to survey and log in densely forested space without regard to local customs, Jilin’s early foresters became the subject of popular ire. As was explained in the previous section, local communities in the Northeast had long become accustomed to being given free reign over their use of Jilin’s plentiful natural resources, with the exception of those on a few areas officials had designated forbidden mountains. Officials attempted to reassert High Qing claims over all of the Province’s natural landscape under the guise of preserving these resources for the economic benefit of China. Though migrant loggers and Banners did not feel they could contest these ideological claims, they attempted to preserve the status quo of woodlands as a communal resource through indirect acts of resistance. If and when their acts of resistance were discovered, they made claims to other aspects of Qing ideology, such as the personal morality of officials, the power of Heaven (i.e. Nature), and compassion for the poor.

Complaints against Forestry Bureau officials continued to pop up during its three short years of operation. In one instance in 1908, a logging boss 木把头 filed an official report against a Forestry Bureau official who had behaved improperly toward his wife while spending the night in his home. Like most settler frontier societies, Jilin had a significant gender disparity, making women the object of much attention and value. The logger claimed that the official had “teased” the woman. She took great offense to this, yelling and cursing 斥骂 at him until the official fled in terror 狼狈逃走. She pursued, only stopping when her neighbors interceded. The logging boss reported the incident to the local Forestry Division, and was able to successfully use it to evade culpability in a dispute over the distribution of money for food rations.

Given the combative nature of the relationship, it is not difficult to understand why locals refused to return the Bureau’s timber when severe flooding sent poorly tied logs sprawling across the countryside in 1909. Infuriated, the Bureau attempted to bring criminal charges against these “timber thieves.” In response, locals argued that they did not share the Bureau’s understanding of property ownership. Though the logs in question all contained markings that declared them to be official property, the so-called thieves declared that they considered “acts of Heaven 天災” such as flooding to override such earthly forms of ownership. Many had already begun to use the timber for firewood or construction by the time officials arrived to collect the scattered slabs. However, in consideration of the widespread nature of the theft, the Bureau begrudgingly admitted that it could not possibly bring charges against so many offenders. Instead, it elected to

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552 Jilin Provincial Archives, 1-35-5533
553 Jilin Provincial Archives, 10—2—211
simply reclaim whatever "stolen" timber it could.\textsuperscript{554} The Bureau hoped it could still salvage its losses by selling the logs to merchants looking to expand Jilin's industry to the South of China. However, by the time officials were able to gather up the scattered timber, the short window for sale had passed. Even in 1911 most of the logs remained unsold, rotting in the Bureau's riverside storage zone.\textsuperscript{555} The Forestry Bureau had wasted money, wasted time, and wasted natural resources to find out that a provincially managed industry could not succeed in direct conflict with local customs.

Similarly, the brief-lived Jilin Provincial Forestry Bureau made the discovery that the Northeast's timber industry was heavily dependent upon railroad transport. However, as we discovered in Chapter 1, these rail networks were largely in the hands of Russian and Japanese interests. Nevertheless, the Forestry Bureau hoped to prove common sense wrong and create its own domestic industry that would rely upon river transport and connections with southern merchants. One of the earliest tasks of the Bureau was to explore the possibility of selling Jilin timber in wealthy southern provinces such as Zhejiang and Jiangsu. In this they hoped to rely upon the promotion of Jilin as a province of immense forests to foster ties with the Jiangnan region's timber merchants. In a 1907 order to begin to survey this possibility, the Forestry Bureau described the lay of the land in the following way: \textsuperscript{556}

The Forestry Bureau's order promotes the ideal of the "lush" (i.e. "dense") forest. It thus serves as both a point of praise for the province, as well as a material advantage in the competition with other southern provinces. Only the lack of contacts with southern merchants and the lack of established supply routes hinder the growth of Jilin's domestic timber industry, the order claims.

Yet, as the province soon discovered, it was not merely a lack of contact with southern Chinese merchants that hindered the development of a provincially managed timber operation. In describing the operation's failure in 1909, Bureau Chief Zhang Peng described the previous year's struggle in great detail. He begins much in the way that

\begin{itemize}
\item \textsuperscript{554} Jilin Provincial Archives, 1-35-2147
\item \textsuperscript{555} Jilin Provincial Archives, 1-37-4230
\item \textsuperscript{556} Jilin Provincial Archives, 15-2-2
\item \textsuperscript{557} 江浙兩省所銷之木, 向在閩贛兩處批運, 以乍浦寧波上海等處為木商萃聚之所。吉省森林蓊鬱, 所產之木既多且良, 惟方隅所限本省既無人運往銷售, 南省木商習於所便, 無人來此問津。
previous reports had begun: by depicting Jilin’s territory as a vast and unbroken forest. He writes:  

Jilin Province’s forests are rich, stretching for a thousand li as far as the eye can see. For such a great benefit to be entrusted to the good of bandit dens is a shame . . . In recent years, the southern provinces have [experienced] a timber shortage. In the event there are construction projects, using materials from abroad becomes unavoidable. If Jilin Province’s timber could flow easily into the port it could open up unlimited beautiful profits 無窮之美利 for our province as well as block up the unlimited leaks in the finances of each individual province.  

Like the Ministry of Agriculture, Industry and Commerce, as well as several of the other officials cited above, Zhang Peng relies upon the visual image of the dense, unending forest to persuade his audience of the correctness of his plan. The forest, in his description, should be firmly connected to visions of abundance, profit, and a national economy that stood at odds with a globalizing Jilin. Its beauty could be harnessed to create “beautiful profits 美利” for the Province. However, local “bandits” stymied the Forestry Bureau’s efforts and denied the Dynasty access to the natural resources over which it had a rightful claim.

However, as the report continues, we quickly see that the optimism of 1907 had faded into the pessimism of 1909. At this time, the Bureau Chief conceded that "if you desire extraordinary benefits, they cannot be expected in the matter of a day 願非常之利，非旦夕可期." Zhang Peng admitted that flooding and theft had prevented the previous year's shipment from reaching Tianjin as the Bureau had initially hoped. In an attempt to salvage the operation, the Forestry Bureau had sought to export their remaining logs via the border city of Hunchun 璣春. However, the river froze, stranding the logs far away in Changchun over the long winter. Though these could be seen as acts of fate that were unlikely to be repeated in the following years, the Bureau Chief nevertheless recommended that Jilin Province not continue to pursue trade with the south of China. "Jilin's forests are multitudinous; we cannot use them to the point of exhaustion," he finally declares. As such, Zhang Peng concludes that the Forestry Bureau should continue to exist, but it shall henceforth only trade within the province. Furthermore, as "to involve [ourselves] in competition for profits with the people is also not the meaning of advocating the restoration [of industry]." Zhang proposed that the Bureau exclusively sell to other government organs. Without the railroad and against the will of the people, there remained few other feasible options.
Through their interactions with all of these government organs designed to promote local forestry, Jilin's merchants gradually became acquainted with the term "forest." In 1908, two separate merchants used the new term "forest" in their petitions to convince provincial authorities to grant them exclusive control over specific tracts of forested space. Their usage of the term indicated their increased familiarity with the term "forest" as linked to struggles and goals of twentieth-century statecraft. One such petition by a forty-one-year-old Han merchant named Wu Chang 吳常 urged provincial authorities to allow his company to operate along the Russian border. He claimed:565 "If [you] do not give [the trees around Hunchun] a purpose soon, but delay [the matter], then in a short time foreigners will start to set their minds on [acquiring] this area of forest. [You] must urgently come up with a plan for this region." Wu further argued that the timber, rather than agriculture, stood a better chance of creating an industry that could continue to develop the region for years to come:567

With regard to opening up land to cultivation, implementation is the most important idea. In the past, although there are many areas that have been released and have already come under cultivation, many wealthy merchants have claimed wasteland and resold the property at raised price, resulting in rich soil [turning into] half-rate stony plots.568

In this argument over the role of agriculture and wealthy individuals in destroying the quality of the soil, Wu Chang is perhaps thinking of his home province of Jiangsu, where the dominance of agriculture and rising property costs had become a source of contention.569

Wu Chang submitted two petitions that year (1908) asking officials to grant him rights over "official wasteland 官荒." In this application cited above, he seeks establish the Heavenly Origins Woodland Reclamation Company 天源林墾公司 in an area he describes as a "forest that covers the countryside as far as the eye can see 森林遍野, 一望無垠."570 By contrast, his petition to establish an agricultural reclamation company in the Sanxing 三姓 Region571 refers to the region's topography in traditional terms, namely as including flatlands (平原) ideal for agriculture among the "mountain woods and wetlands 山林沼澤."572 From this we can infer that Wu Chang believed that his readers at the Circuit for the Promotion of Industry would not inherently consider all wooded areas to be "forests."

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565 Jilin Provincial Archives, 10-2-205
566 若不早定宗旨則時延，日久外人將從而生心。此森林一端，不可不亟思籌辦者也。
567 Jilin Provincial Archives, 10-2-205
568 至於墾務尤以實行為最要之主義，從前所放荒段已經墾熟者固多，而富紳大賈往往承領以後加價轉售，亦所在皆有，以致膏腴土壤半等石田
570 Jilin Provincial Archives, 10-2-205
571 At the time the proposed swath of land included most of northeastern Jilin Province. Today, the region is part of eastern Heilongjiang Province.
572 Jilin Provincial Archives, 10-2-205
Other petitions from the same year reveal this assumption to be correct. One group of merchants hoped to gain control over the forested space in southern Jilin by claiming that "the forest on the official mountains is dense. The surrounding hundred li is the hiding place of bandits". Their argument relied upon the notion of forest as being defined by density. Even the word for "hiding place" – 藥 – carries with it the image of a wild space overgrown with wild plants, such as a marsh. However, the Circuit for the Promotion of Industry refused to call the region a forest, citing a survey performed by the Bureau of Forestry that stated those trees had not yet grown to full size (成材). As such, the Circuit planned to forbid logging in this region in order to allow the trees time to grow and develop.

From these and other descriptions, we can see that the idea of the "forest" had become closely linked to Jilin's budding timber industry. Only forested spaces considered suitably dense and large to support what we today might call "sustainable logging" could earn the title of "forest." All other spaces fell under traditional titles drawn from images of forested space common in China Proper, such as the "mountain" and the "grove." By comparison, forests were both "beautiful for their benefit" as the merchant Wu Chang describes, and "beautiful for their density," as the official Xu Shichang declares. The loss of such beauty to the railroad and foreign exports was a tragedy that must be stopped, in spite of the unwillingness on the part of central officials to commit military and financial support to securing the border. If military solutions were not an option, then the Northeast must be converted into an economic powerhouse, despite the protests of local power-holders. Merchants must be led before they can leap, as we recall from the case of the Jilin-Heilongjiang Bi-Provincial Forest Company. Nor must the province permit prime forestland to fall into the hands of gentry looking to exhaust the land through agriculture, as the Jiangsu merchant Wu Chang argued. At the same time, Wu Chang also argued in his other petition that sparsely forested and flat pastureland should be wrested from the hands of "pasture lords" and placed into the hands of merchants like himself who would devote the land to agriculture.

Agricultural historian Yi Baozhong has argued that the gradual fall of the Qing Dynasty over the course of the long nineteenth century resulted in significant changes to the Northeast's economy and landscape. As Banner lands changed hands and agricultural migrants challenged existing economic norms, traditional hunting, fishing, and herding economies gradually began to give way to agriculture and timber. Yet with regard to timber he fails to see how new technologies expanded the reach of new economies to even the most distant peripheries, as we saw in the case of the Xing'anling...

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573 Ibid.
574 Ibid.
575 Ibid.
576 Foreign Affairs Archives, Institute of Modern History, Academia Sinica, ROC. 02-04-041-02-022
577 See Chapter 1.
578 Jilin Provincial Archives, 1-32-2001
579 Jilin Provincial Archives, 10-2-205
580 Ibid.
581 Yi Baozhong, p. 118.
Mountain Range cited above. Conversely, Praesenjit Duara's analysis of the history of late Qing and early Republican Manchuria sees the railroad as playing a pivotal role in defining the twentieth century's economic and migration patterns. Nevertheless, in his determination to see the railroad as an indomitable force for change, Duara overlooks how earlier migration and administrative trends had already drastically shaped Jilin's landscape prior to the railroad's arrival. The fundamental problems of 1847 had substantively little difference from those of 1907. Only the extent and speed of the transformation of Jilin's land differed.

Despite the early failures of provincially run forest projects, some of Jilin's local officials and even locals continued to embrace the idea of the "forest." For those officials who actively used the term in their correspondences, the idea of the "forest" connected their forested space to a wide world of economic and administrative possibilities. In other words, the "forest" typically referred to large swaths of densely forested space currently in existence that were in need of new administrative techniques. For example, in April of 1911, the head of Jilin Province's remote Hulin District 虎林廳 wrote of a dire need to reform the region's forest administration. He argued that the province's recent efforts to bring land under cultivation in the border areas had negatively impacted his district's forest coverage. Controlled burns, construction projects, and even timber merchants looking to sell their wares across the Russian border had all resulted in a rapid and visible impact in Hulin's landscape. In the end, he notes: "Currently there is not even a [tree] sprout in the region along the [Wusuli] River at my [country's] border. Half [of the trees] in the area further away from the river have also been felled. [This] is clear proof [of the need to reform my district's forest administration]."

The proposal continues by outlining positive trends in forest administration found in both Japan and Fengtian Province. In Japan, these include the clear division between private and public forests, as well as the establishment of forest police (森林警察) to prevent forest fires and prevent excessive logging. In Fengtian Province to the south, the proposal notes that positive strides had been made in establishing reforestation zones (造林區). All of these new strategies could be applied to managing Hulin's forests in the face of the pressures of a modern, globalizing economy and new integrative technologies. The provincial government agreed with the district head's assessment that the region could benefit from modern forestry techniques. It concluded its remarks by asking the district head to formulate a list of forest regulations (章程) that would incorporate these new administrative techniques.

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582 First Historical Archives, 04-01-01-1074-066
584 Prior to 1954, Hulin District (later Hulin County and Hulin City) was part of Jilin Province. Today it is located in eastern Heilongjiang along the Russian border.
585 Jilin Provincial Archives, 1-37-4228
586 現在我邊界沿江一帶已等不毛，即距江稍遠之區亦半被砍盡，是其明證。
587 Jilin Provincial Archives, 1-37-4228
588 Ibid.
Only a few months before, in January of 1911, the magistrate of Fangzheng County (方正縣) had petitioned the provincial government to allow the formation of Forest Patrol (森林巡警) in his district. In so doing, he reaffirmed that the idea of the "forest" opened up new avenues for locals to actively participate in the management of forested space. The magistrate noted that the idea for the police force came in great part at the request of local marten (貂) hunters, who were tired of unregistered "bandits" destroying prime forestland along the sides of the railroad tracks. Though forest patrol officials (森林巡官) had been dispatched to patrol the area, they had difficulty separating the "good people 良民" from the bad without a comprehensive policing and licensing system. The marten hunters hoped that a new system would allow them to hunt in relative peace. Jilin's Department of Civil Administration (民政司) agreed, forwarding Fangzheng County's memorial along to other counties in the densely forested eastern half of the province.  

Before Fangzheng County could establish its own plan of action, other counties throughout Jilin Province beat them to the punch. Over the course of 1911, several other counties in eastern Jilin formulated comprehensive set of rules (章程) for the formation of a permanent forest police force. These included Huadian County (樺甸縣), Wangqing County (汪清縣), and Emu County (額穆縣) and Yanji County (延吉縣). Only the first of these proposals -- the one written by Huadian County -- mentioned that the inspiration for the general format for these proposals came from those recently approved in nearby Fengtian Province. Though many of the previous proposals cited above had offhandedly mentioned the need to establish a forest police or a forest patrol, these new proposals represented the most concrete step toward achieving this goal in Jilin Province to date.

The regulations these magistrates submitted reveal the highly localized nature of conceptualizations of the nature and purpose of eastern Jilin's forests. This was true even in cases where the magistrate did not specifically cite local forces as contributing toward the decision to establish a regular forest police force. Although each set of regulations followed a standard format, magistrates tailored the sections to accord with local conditions. This was particularly true in sections that outlined the purpose of the local forest and the police force itself.

The first section of the proposals asks the county to declare the overall purpose (宗旨) of the police force. Huadian County, for example, had rather traditional

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589 Fangzheng County is located to the east of Harbin. Its location both along the Songhua River and in close proximity to the rail line at Harbin made it an ideal place from which to export timber. As it continued to grow, it would eventually become a core center for Republican and Manchukuo-era forestry.

590 Memorial cited in: Jilin Provincial Archives, 10-2-257 and 1-37-63.

591 Jilin Provincial Archives, 1-37-63

592 Jilin Provincial Archives, 10-2-257

593 Jilin Provincial Archives, 10-2-267

594 These regulations have since been lost. Their existence is referenced to in Emu County's petition.

See: Jilin Provincial Archives, 10-2-267

595 Jilin Provincial Archives, 1-37-63
motivations. The magistrate declared that his jurisdiction's forest patrol was "specifically for the purpose of clearing out and inspecting for traces of bandits, as well as guarding the forest." The following sections describe seasonal strategies for addressing the bandit problem. Though Huadian County's regulations do briefly mention that the forest patrol should arrest "[a]ll those who set fires, burn mountains, and willfully destroy the bounties of Heaven," this represents a minor deviation from the litany of specifically anti-bandit stratagems. Only in the definition of what constitutes a forest do we see a true deviation from a more traditional framework. The regulations declare that the forest patrol should only concern themselves with dense sections of trees in the vicinity of four separate rivers and streams. Thus, in direct contrast with the forbidden mountain regulations outlined earlier in this chapter, the emphasis is placed not on the proximity of forested space to a mountain, but rather merely its density.

Wangqing County's regulations reveal a different relationship between the county government and forested space. The magistrate declares that the general purpose of the police force should be to "preserve the entire County's forests, implement supplemental planting programs, clear out the roots of banditry, and maintain order." The detailed list of regulations reveals that Wangqing County expected the forest patrol to take the preservation of forests seriously. Officers should watch out for diseased or damaged trees while out on patrol, in addition to unlicensed loggers and other undesirable elements. Furthermore, they should carry out afforestation projects in order to model correct practices for the local population. The magistrate remarked that:

"I find that the... forest region under my county's jurisdiction previously flourished. It is only [because] logging [had] no restrictions and bandits added their traces, that bandit chiefs (batou) and small groups would enter into the mountains at will and, without regard to the time or date, log against regulations. The people who live inside the county's borders have never paid attention to planting [trees]; if they have a need then they [simply] take what it requires without deep thought as to the concern that in five years there will be completely bald mountains and not enough timber to go around."

Though the forest patrol should not actively conduct propaganda work per se, Wangqing County hoped to incorporate a broad range of locals in their police force. The regulations stipulated that armed local hunters should be recruited as reserve forces. As such, it...

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596 Ibid.
597 專以清查匪跡保衛森林為宗旨
598 縱火焚山暴殄天物者
599 Jilin Provincial Archives, 1-37-63
600 Jilin Provincial Archives, 10-2-257
601 以保存全縣森林實行培植清絕盜源維持秩序為宗旨 (emphasis mine)
602 Jilin Provincial Archives, 10-2-257
603 查縣境所轄。。。一帶森林向為繁榮，惟砍伐原無限制，盜匪藉為潛踪，以致把頭小股任意入山，無論何時肆行砍伐，縣境居民曾不注意種植，如需應用取材，於斯深慮不出，五年必有童山濯濯，材木不能勝用之患
604 Jilin Provincial Archives, 10-2-257

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was perhaps hoped, a faith in the importance of reforestation might be spread throughout Wangqing's population.

Wangqing County's definition of the forest differed somewhat from that of Huadian County. Huadian County had merely defined its forests as dense woodlands, and ordered its forest police force to patrol in four separate areas that were defined purely by their proximity to a river or stream. As such, the magistrate of Huadian County did not consider it important that a forest necessarily be large or continuous. By contrast, Wangqing County delineated the borders of its forestland by noting the geographic features along its northern, southern, eastern and western edges. These included ravines (gou 溝), rivers (chuan 川 and he 河), a spring (quan 泉), and a grassland (dianzi 甸子). Thus, in Wangqing County's view, the forest was a continuous entity united by the presence of dense groupings of trees that could span farther than any one particular mountain.

By contrast, Emu County took a more overtly administrative approach to defining its forestland. All of the geographic boundaries cited were mountains or mountain ranges that belonged to specific administrative districts, such as the West Laoye (西老爺嶺), Haiqing (海清嶺), Taiping (太平嶺), and Shansong (杉松嶺) mountain ranges under Jilin District's (吉林府) jurisdiction. This approach to administering forested space closely resembled that of both the forbidden mountain and weji systems. Boundaries were assessed by the proximities to individual mountains in the case of the former and mountain ranges in the case of the latter.

This "traditionalistic" approach to defining the boundaries of Emu County's forests may not have stemmed from an unwillingness to engage with the new "forest" spatial framework. Rather, political circumstances may have hampered the County's ability to conduct the surveys necessary for the reevaluation of administrative policy. In October 1911, the Emu County magistrate apologizes for the tardiness of his petition to form a forest police corps. The original order for Jilin's forested counties to formulate regulations for forest police had been made nearly eight months prior. The magistrate explains that he is newly arrived to the post after the previous magistrate had left due to illness. Over the past several months "one hundred tasks have awaited [his] action 百事待舉," which had resulted in the delay in formulating forest police regulations. As such, the supposed "survey" the magistrate conducted may have been haphazard at best.

Despite the lack of creativity in terms of defining forest administration zones, Emu County's regulations represent a distinct document modeled on, but not directly copied from, the entirety of any of its other counterparts. I take this to mean that, while the Emu County magistrate may not have had enough command of his resources to conduct a thorough survey of the forested space in his jurisdiction, he nevertheless considered the protection of forests to be worthy of careful consideration.

605 Ibid.
606 Jilin Provincial Archives, 10-2-267
607 Ibid.
In the section entitled "general purpose 宗旨," for instance, it states: 608 "the formation of the forest police [should] specifically take as its purpose the protection of today's [woods], the cultivation of future woods, the development of industry, the opening up of resources, as well as the maintenance of social order [through] the eradication of the roots of banditry." 609 This section was thus broader in scope from those of Huadian and Wangqing Counties. The former, it will be recalled, focused exclusively on the forest police's role in rooting out bandits. The latter further spoke of forest police as existing in order to also "preserve the entire County's forests" and "implement supplemental planting [programs]," 610 but neglected to frame their purpose in terms of their specific connection to industry and resource management. Considering the fact that Emu County held jurisdiction over some of Jilin Province's prime market towns along the Songhua River, this represented a key adjustment of the forest police framework to meet the needs of local conditions in Emu County.

Emu County's status as a more populous, but nevertheless forested district shaped other aspects of the County's proposed forest police regulations. Emu's petition included a broader range of regulations addressing how to better regulate the deleterious behavior of the "people 民" in addition to simply providing bandit suppression strategies. One specifically referred to the prevention of wildfires, which the magistrate considers a result of local controlled burning practices. Such a regulation was not present in the forest police petitions cited above. Emu County's regulation stated: 611

> Among the people it is customary to burn continuous [sections of] mountains and marshlands. As soon as the fire spreads the trees in the woods become injured. Henceforth, for each instance of burning wasteland, it must first be reported to the relevant government bureau, which will provide a license. If it is approved to set a fire near forest areas, measures to reduce [the fire] through beating it must be specially prepared in order to prevent the fire's spread. 612

As such, though Emu County proved unwilling to interfere in local farming practices, it hoped to at least mitigate their harmful effects on forested space by licensing and containing controlled burns.

Jack Patrick Hayes reminds us that, like much of the world, fire represented a well-established tool in Qing China for agriculture, military campaigns, and even road construction. The Ming and Qing Codes only criminalized arson in the case of harm done to life or property, and not in the case of harm done to natural environments. 613 In this

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608 Ibid.
609 森林警察之設，專以保衛現在暨培植將來林木，振興實業，開拓利源，並維持設會秩序，清絕盜源，為宗旨
610 Jilin Provincial Archives, 10-2-257
611 Jilin Provincial Archives, 10-2-267
612 民間習慣，恆列山澤而焚之；一經延燒，林木受害，凡有焚燒毛荒，必先報告該管局區，發給許可証，方准施放於接近森林處所，尤須預備撲滅方法，以免蔓延
613 Jack Patrick Hayes, "Fire and Society in Modern China: Fire Disasters and Natural Landscapes in East Asian Environmental History (1820 - 1965)," ASIANetwork Exchange, Vol. 20, No. 1 (Fall 2012), pp. 23 - 35.
respect, Emu County's attempt to actively protect forested space from the ravages of fire represented a significant departure from earlier precedents. As a result of the increasing political importance of forestland, local officials would begin reporting occurrences of large wildfires that did not cause significant loss of human life or property to their superiors, such as the wildfire of 1914 that raged for over 200 li (approximately 62 miles) of forestland in Emu and Dunhua Counties.614

Nevertheless, like the majority of his contemporaries, the magistrate did not consider anthropogenic fire to be categorically immoral. The protection of the rights of farmers to effectively manage their land remained just as important as Emu County’s right to protect forestland from the impact of agriculture. Like the revised 1904 regulations cited above that taxed all timber in forbidden mountains with the exception of firewood,615 forest regulations remained a delicate balancing act between the desires of Jilin's governmental organs against the needs of local taxpayers.

The differences between forest police regulations outlined above occurred due to the strong trend toward viewing the forest as an idealized imagination of a highly localized phenomenon. Though the idea of the "forest (senlin 森林)" was a foreign import taken in response to the military and economic incursion of foreign actors, local magistrates nevertheless felt free to tailor its meaning to fit local conditions. In no case did regional or central officials object to these localized definitions.

Most of the proposals regarding forestland made in 1910 and 1911 also made a point to explicitly reference the distinction between natural and artificial in order to assert control over wide tracts of forested space. For example, Wangqing County's forest police regulations state:616 "all the forests in the County limits are natural resources [tianran wuchan 天然物產]. Under the newly introduced county system, there are as of yet no privately owned forests. As such, it should all be considered Dynastic forest [guoyou senlin 國有森林]. In 1910, Meng River Prefecture 濛江州 also emphasized the rights of the government to administer natural forests in its proposal to form a joint official-merchant forestry company.618 "The forests in Meng River Prefecture are all centuries-old natural resources 數百年天然物產. If Jilin Province were to establish a forestry company, on the one hand it could protect [these forests], while on the other it could employ workers to fell them."619 Due to both their age and their natural status, the memorial argues, the Province has the right to exert complete control over the Prefecture's forested zones.

Emu County's forest police regulations offer a rationale for this link between the natural forest and government control. This explanation places modern forest management within the historical tradition of the Imperial Household restricting popular

614 Jilin Provincial Archives, 101 - 3 - 423
615 Jilin Provincial Archives, 52-1-100
616 Jilin Provincial Archives, 10-2-257.
617 縣境所有森林原係天然物產, 新設縣治暫無民有森林, 自應一律認為國有森林。
618 Jilin Provincial Archives, 10-2-243
619 濛江州森林皆數百年天然物產。若有吉省設立林業公司，一面保護，一面僱工採伐。
access to the Northeast's resources for the benefit of the Dynasty. Emu County's regulations state:

Since the founding of the Dynasty, when Jilin's mountain woodlands were declared restricted, they had all been considered Dynastic property. Although recently the territory has been reorganized into a province and all land opened up to reclamation, all the woods belonging to [Emu] County are natural resources, not private property held by the people. As such, [their status] should all be changed to Dynastic forests.

This regulation advances two notable arguments. First, the magistrate marks the transition from the "premodern" designation of "mountain woods 山林" to the modern "forest 森林." Second, he makes the case for the continuity of these two ideas through their designation as "natural resources 天然物産." Contrary to the assumption that an open reclamation policy should allow natural forestland to be open for private purchase, Emu County's "forests" should be considered Dynastic property just like the "mountain woods" before them.

As we saw earlier in this paper, the magistrate's assumption that previous imperial claims to complete control over the Northeast rested upon the natural-artificial distinction were certainly anachronistic. The 1835 report by the Assistant Military Governor of Jilin cited above declared that Jilin's woodlands should be protected due to the region's status as the "land from which the Dynasty arose 國朝發祥之地." In this, he relied on imperial images of the Northeast and its weji (Chinese: woji 窩集) that had been codified by the Qianlong and Kangxi Emperors before him. At the same time, growing numbers of unregistered Korean and Chinese migrants had led to shortages in resources considered valuable for the Dynasty, such as ginseng and pine nuts. Through the rationale for protecting the region's forests had not changed, the nature of the threat and the resource had shifted enough to demand new strategies for administration. The Daoguang Emperor introduced China Proper's forbidden mountain system in the hope that it would at least secure the Dynasty's continued access to ginseng in particular.

I have found no reference to such arguments for the preservation of the Northeast's forested space made in the post-Taiping period. As also argued above, even the Guangxu Emperor, who briefly sought to prevent the widespread sale of timber from forests in northern Jilin and Heilongjiang, justified his actions under the notion that "the Three Eastern Provinces is a land of fundamental importance 東三省為根本重地." Though no longer intimately tied with the Manchu imperial founding mythos, the Northeast's forestlands could still be tied to the image of Dynastic land as a source of military strength.

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620 Jilin Provincial Archives, 10-2-267
621 吉林山林國初封禁以來，皆屬國有。近雖改設行省，一律開放，縣屬所有林均係天然物產，並非民間私有，自應一律改為國有森林。
622 Jilin Provincial Archives, 30 - 3 - 26.
623 First Historical Archives, 1426 - 4 - 188
The Northeast’s Banner soldiers could remain self-sufficient through their connection to traditional economies such as hunting and fishing.

Yet, as discussed in the previous chapter, the First Sino-Japanese and Russo-Japanese Wars made it clear that even the most vast and fertile of lands could not solely sustain a modern army. On the national level, push to define the "forest" first by density and then by "naturalness" came as a response to the growing push toward industrialization under which the control of natural resources rather than agricultural land proved to be paramount. Timber and its byproducts became one of several sources of contention among Chinese, Korean, Russian, and later also Japanese power-holders in the Northeast region, thus simultaneously becoming one of the many things "seen by the states," to paraphrase the words of James Scott.\textsuperscript{624} The growing global image of Manchuria as an infinite resource only fueled the desire for timber.

As a result, by the turn of the twentieth century even merchants and officials operating in remote jurisdictions stayed in tune with the economic and conceptual trends from the region, the country as well as from the larger world. They quickly adopted new terminology such as "forest (senlin 森林)" for local use. For the first time, they also formulated standardized boundaries for these forested spaces that were tied not simply to the mountains, but by the density of the trees in question. The impact of the railroad in this regard was paramount for several reasons. It first created the opportunity for the growth of a timber export economy outside of Southern Manchuria that tempted migrant and Banner populations alike with new economic opportunities. Many late Qing officials bemoaned the visible transformation of their landscapes as a result of export-based logging projects. Second, the specific nature of the treaties and contracts made with Qing officials to construct these railroad lines forced local officials to firm and legible boundaries as to what constituted official "mountain" or "forest" space. Their efforts to enforce these boundaries further undermined the local culture of communal rights to forested space.

The creation of these boundaries outside of regions with rail lines was enforced by both central and local demands. The Ministry of Agriculture, Works and Commerce ordered that localities should provide them with detailed surveys of their forests, encouraging them to define the forest in terms of the presence of "natural" forestland. Local hunters, loggers, and ginseng merchants eager to distinguish themselves from "bandits" encouraged the establishment of modern "forest police" units. As local officials defined the duties of such units, they were once again required to clearly define what exactly this term "forest" meant. In so doing, they drew upon various sources of knowledge, from "forestry" terms coming out of Shenyang, which was concerned with creating a rational and scientific "forest," to the declarations of regional officials, whose concerns over the preservation of forest of forest density were rooted in an attempt to maintain local resources for use by local economies. Where new ideas agreed with or dovetailed with local needs, they were accepted. Where they did not, they were abandoned.

\textsuperscript{624} Scott, Seeing Like a State.
In each and every case, those who sought to define the forest implicitly drew upon older traditions of forest management, such as the weiji or the late imperial southern China's forbidden mountain tradition that was fostered in the Northeast under the reign of the Daoguang Emperor. The image of forest density as tied to the Northeast's identity grew out of High Qing images of the weiji as a fundamental part of the preserving the Dynasty. The legacy of the forbidden mountain system can also be prominently seen in documents that declare forests to be of critical importance of the Northeast's economy. Though the forest could span over multiple types of topographies outside of the mountain, that did not mean that officials always considered flat topography to be the natural domain of trees. Just as the term "forest (senlin 森林)" littered their texts, the use of phrases like "enter the mountain 進山" to refer to entering such forested space also continued to prevail. The image of "barren mountains" continued to dominate portrayals of forest loss, in spite of the existence of alternative terms such as "open space 隙地." In this, they listened to the language of the people, many of whom were Han migrants from the South. The "mountain," like the weji, was a resource of greater flexibility than that of the forest, which was specifically connected to timber as an industry. To see the "forest" was to see trees, but where these trees should be determined at the local level.

V. Epilogue: Republican Jilin

Over the course of a few short years between Japanese victory in the Russo-Japanese War (1904 – 5) and the fall of the Dynasty, the word “forest” had become very much ingrained into the vocabulary of Jilin’s official and merchant classes. Institutions sponsored by the Ministry of Agriculture, Industry and Commerce, the rise of Japanese presence in forestry projects, as well as the sponsorship of forestry initiatives by Xu Shichang and Yuan Shikai all inspired the term and idea of the forest to become prevalent among Jilin’s officials in the final years of the Qing Dynasty. As discussed in the previous chapter, Japanese influence in forestry education as well as elite efforts to promote forestry through forestry associations, newspaper articles, and even a limited number of educational tours also contributed to the growth in its usage.

For instance, in 1910 the Governor of Jilin officially recognized two members of Wuchang County’s Forestry Association for their “extraordinarily diligent 異常認真” efforts to promote reforestation among local merchants and people. These went from the county seat to each of the individual district seats, posting lists describing the benefits of forests in the vernacular, offering tree-planting demonstrations, and sponsoring tree-planting projects along the roadways. In total, the pair took credit for the planting of over 14,500 trees around the county. In their report, they referred to themselves as “tongzhi 同知” – or those who share knowledge. They considered one of the primary goals to be to spread the understanding of the purpose of forests. They credited their work for increasing popular awareness of the environmental and health benefits of forests.625

625 Jilin Provincial Archives, 1-35-1402
"In the age when strength is sought and in these days and months of restoration," to quote the desperate ginseng farmers collective from the introduction to this chapter, the gentry foresters’ omission of the economic benefits of forests is striking. The ginseng farmers’ pleas to preserve the ecology of the “mountain woods” because ginseng benefited Jilin’s provincial economy fell on deaf ears. Yet that very same year, gentry foresters planted trees along the roadsides in small towns near foreign-controlled railroads in order to prevent erosion, conserve water flow, and increase the flow of oxygen. In contrast to the ginseng farmers, the foresters’ contribution to Jilin Province was lauded and even financially rewarded. This contrast reveals how the purpose of the natural world had shifted in the minds of Jilin’s officials and elites in the age of the railroad. The weji or the mountain, which supported non-arboreal life, were seen as less important than a dense group of trees referred to by the modern term “forest.” Wild animals and non-arboreal plants, they thought, could not benefit Chinese bodies, land, and economy to the same extent that a dense grouping of trees could.

As discussed in Chapter 2, the fall of the Qing and the rise of the Republic brought Yuan Shikai and Xu Shichang to positions of national prominence. As a result, the importance of forests and forestry to China’s status in the world continued to be emphasized on the national level. Through the creation of national offices that would continue to support forestry in Jilin province, as well as through national reforestation programs under the guise of Arbor Day (to be discussed next chapter), officials and elites across the Republic were required to gain a familiarity with the basic elements of early twentieth-century forestry. As we saw briefly in the last chapter and shall see more clearly in the upcoming chapters, Jilin’s Experimental Agricultural Station – founded in 1908 to spread modern agricultural and forestry techniques – would serve as a site for the dissemination of such knowledge to both Jilin and the country as a whole. The ideal of the “forest” was at the heart of such knowledge, in great part because the Republican Ministry of Agriculture and Commerce continued in the traditions of its Qing predecessor in valuing foreign knowledge in forestry.

Jilin’s Station Head – Hu Zongying 胡宗瀛 – was originally from Anhui Province in the Chinese heartland, but had been educated in Japan. Under the sponsorship of the Republic’s Ministry of Agriculture and Commerce, he and two other foresters returned to Japan for three months in 1916 to visit Japanese forestry administrative organs and public societies. The following year, he published a report on his experience for the Bulletin of the Ministry of Agriculture and Commerce. Begun in 1914, this publication served as an informational guide for the educated public on the Ministry’s policies related to agricultural, forestry, mining, and commerce. In his report, Hu Zongying remarks that “when observing a country’s policies, one must trace their history and search for their novelty 夫考察一国之政治。必迹其旧而寻其新.” His history of Japanese forestry practices points to a convergence of “central and foreign, past and present 中外古今.”

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626 Jilin Provincial Archives, 1-35-5533
627 胡宗瀛《考察日本林政报告书》农商公报, 4 卷, 1 册, 1917 年 8 月 15 日, 13 页。
628 Ibid.
The Tokugawa Court had placed importance on forestry, but their methods were not scientific. It was only in the Meiji era, when "court and public ... paid more attention to policies related to education, the judicial system, military readiness, postal, telegraph and railroads, [that the Japanese] saw forest matters as [needing] careful planning." This, in turn, resulted in the desire to carefully study the European context, following which the Japanese instituted a system of national forests as outlined in the Forest Law of 1897. Several other acts followed that strengthened the Japanese Court’s control over forests, culminating in an ever-perfecting system that will eventually produce a national profit of one hundred million yuan. Manchuria, Hu Zongying argues, should follow in Japan’s footsteps. Like the Meiji, the Republic of China was undergoing technological and ideological changes. Furthermore, its forests are many times larger than Japan’s. As such, he claims, the profits to be earned from forests were limitless.

Not everyone interested in forest conservation was motivated by such abstract notions of national economic profit. Many in Jilin Province continued to associate the loss in forest cover with foreign greed, just as many of the Qing officials cited above had done. This concern even carried over into the public sector. In 1913, Wei Shenghe published his Geography of Jilin Province in response to the growing influence of Russian forces via the China Eastern Railway. A migrant from China’s coastal Anhui Province and editor of the Jilin-Changchun Daily, Wei Shenghe was both connected to national Han and local Jilin culture. Both gave him cause to worry about the changes in Jilin’s land and natural resources. In the past, Jilin’s land had served as a natural barrier to foreign access. The world of Wei Shenghe’s present could not be more different:

But now all nations have access [to Jilin]. They battle over agriculture and merchant rights; competition is everywhere. When the land here is left for our own use, it serves to protect the borders. Is Jilin not called the land of Heavenly abundance? But with regard to the present, agricultural land remains partially uncultivated, of how to open mining resources we only have an inkling, and the forests along the Eastern route [of the China Eastern Railway] serve as fuel for the Russians’ engines. With regard to the practices of fishing, livestock herding, and firewood gathering, they all hold fast to their own customs, not knowing [what it means to] change. This has created the tendency for [the land to be left] uncultivated and unmanaged, which has led to the concern that our unguarded resources will entice thieves, and will not profit the nation. This will leave a legacy of woe for the people.

629 Ibid.
631 魏声和。吉林地志。李澍田主编。吉林地志；鸡林旧闻录；吉林乡土志。长春：吉林文史出版社，1986，7页。
632 今则万国棣通，农战商战，竞争旁午，当在地利之为我用，以实边者保疆。夫吉林非所称天富之国耶。但以现在论，农田未垦辟，矿产开凿甫具端倪，东路森林徒供俄人汽车【_?_】料。至于渔虞【sic】，牧畜，采樵之业，一切牢守惯习不知变，以荒芜勿治之势，遂来慢藏诲盗之忧，不为国利，便贻民患。
As we can see, Wei Shenghe placed the loss of Jilin’s forest cover in amongst other troubling trends to Jilin’s land, all of which can be traced to the increased presence of foreigners. China needed to claim its land by managing it, lest it “entice thieves” through lack of use. While old industries such as fishing, livestock herding, and firewood collecting once had value, their practitioners’ stubborn unwillingness to adjust to new circumstances that necessitated modern, industrial control had allowed the land to appear unused. This would only “leave a legacy of woe for the people.”

Wei Shenghe’s outline of each of Jilin’s counties continues to enforce the argument that Chinese should only exhibit concern over deforestation when its cause could be traced to the expansion of foreign influence along the railroad. In his account, old geographies merge with the new. Manchu toponyms and geographic markers (namely the Willow Palisade and the various weji names) are included for the reader’s reference, though with little explanation. Wei assumes that his readers are familiar enough with this old geography, including the troublesome Manchu term “weji.” What they need instruction in is the new geography of foreign incursion and Chinese loss. Only by understanding the problem in this way could the officials and elites of Jilin begin to protect Manchuria’s resources.

Wei Shenghe’s description of Changshou County provides a good example of this. He begins by describing the County’s borders. He notes that the Seqi Weji 色齐窝集 spreads into Changshou County over the mountains to the East, also serving as a forest range of the larger Bizhan Weji 毕展窝集. He continues:

As a result, within the County’s boundaries, mountain ranges and hills intersect, with mountains left and right. Only where the China Eastern Railway tracks cross does the steep and impenetrable become flat... If the south of the County were filled with tall mountain ranges and precipitous cliffs with tangled and lush forests, it would still be called a sea of trees. What a shame they have been turned into fuel for Russian engines, [the mountains] turning bald and [the forests] nearly exhausted.

In this narrative, the forest (senlin 森林) is both subordinate to and merges with the weji. One weji extends beyond the forest, flouting county boundaries, while the other merges to become merely an old word for forest range, and the forest a new word for weji. The imprecision of this language matters little to Wei Shenghe. One need not know the land

633 Wei Shenghe’s geography is the only Chinese-language work, past or present, I have found that does not offer an in-depth definition of the term “weji,” but rather merges it with the new word “forest.” This suggests that his audience is expected to be local officials and elites.

634 Known today as Heilongjiang Province’s Yanshou County 延寿县, its name was under flux in the late Qing and Republican periods. In 1914, its name would be changed from Changshou to Tongbin County 同宾县. It would only be known as Yanshou County as of 1929, becoming part of Heilongjiang in the 1954 redistribution of provincial boundaries in Manchuria.

635 Wei Shenghe, p. 17.

636 以故县境之内，岭峦横午，左右皆山。惟东清铁道轨辙所经，舍险就夷。。。若县南则峻岭危崖，森林蟠郁，乃称树海，惜被俄人所供汽车燃料，濯濯殆尽。
precisely to understand the fundamental nature of Jilin’s forests in the nascent Republic; Jilin was losing its trees to Russian interests, and the railroad was the catalyst for this change.

As we have already seen, Jilin’s officials proved similarly motivated to action by the growing presence of foreign railroads and logging projects. Yet, unlike Wei Shenghe, officials proved more concerned with the potential for logging projects to extend beyond the immediate vicinity of the tracks. Throughout his geographic account of Jilin’s counties, Wei Shenghe notes that several have thus far escaped the damaging effects of deforestation due to either their distance from the railroad line, or the presence of an “impenetrable” geographic barrier, namely a mountain. Following his attribution of Changshou County’s deforestation problem to the Russian-controlled railroad, Wei argues that the forests in Wuchang County, which lay on the other side of Changshou County’s southern mountain ranges, “remain preserved.”

The same was true of Fangzheng County, which lay to the east of Changshou County. The presence of steep mountains had meant that few trees in the County had been felled as of 1913, he argued. Unbeknownst to Wei Shenghe, this would change dramatically by the 1920’s, when timber merchants in Fangzheng County would take advantage of provincial military protection and river transport to develop the province’s most vibrant timber economy controlled by Chinese merchants.

Jilin’s officials by and large proved much more prescient than Wei Shenghe. As early as 1910, officials in Meng River County had noted that the influence of the Joint Sino-Japanese Timber Company began to bleed into Jilin’s countryside by way of its river networks. Though no Japanese merchants had yet arrived to personally control logging operations, Chinese locals proved quite willing to ignore issues of maintaining the Republic’s independent economy and sell to the Japanese-controlled company, transporting their logs along eastern Jilin’s river networks. What had once been the problem of China’s national borders with Korea and Russia had begun to seep into the interior. The marked international borders on a map no longer mattered. The borders were everywhere.

Like Wei Shenghe, Meng River County’s officials thought something must be done to prevent their forests from being lost to foreign interests. “[T]he foreigners have eyes oozing with greed for Jilin’s forests,” remarked the Prefect of Tianchangtu District in Meng River County. “I am urgently thinking of ways to resist them.” Yet Meng River County’s officials did not have the luxury of documenting the problem without coming up with a solution. The answer could be found through modern forestry. By turning the forested land that had not yet been claimed by

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637 Wei Shenghe, p. 17.
638 Ibid.
639 10-2-243 Jilin Provincial Archives
640 Ibid.
the public into official forests, the County could exercise control over logging, simultaneously protecting and profiting from its forests.\textsuperscript{641}

Though this solution seemed viable, eight years later, in 1918, the county magistrate continued to complain of the outflow of the County’s resources to Japan. Like the officials in the late nineteenth century, the magistrate did not blame the agreed-upon land management system for his county’s deforestation predicament. The idea of the forest was not to blame, just as the forbidden mountain system had not been to blame. The new county magistrate noted that Meng River County’s officials had failed to implement this division of forestland into private and official land. He claimed the root of the problem lay in the reclamation policies of the late Qing, during which time officials failed to protect forested land from being distributed to migrant farmers and loggers as taxable property.\textsuperscript{642} As will be recalled from Chapter 2, a similar situation had emerged just a few years earlier along the Russian border in Muleng County 穆棱县, where even President Yuan Shikai’s intervention had failed to prevent the sale of what had been presumed to be Chinese national forestland to a Russian timber merchant.\textsuperscript{643}

In the end, the officials concluded that locals (and government tax coffers) had become too dependent on the timber economy to justify either a complete ban on logging or forcibly wresting forestland from private hands. What would the “ten thousand” loggers do if deprived of their livelihood? How could the County preserve itself without adequate taxation?\textsuperscript{644} The Province’s brief foray into managing a modern timber industry had, without control over modern transportation, ended disastrously. In the end, the odious sacrifice of resources to foreign export markets was nevertheless preferable to economic ruin or rebellion.

The idea of the forest as property, whether controlled by officials or by private individuals and groups, had thus thoroughly supplanted a belief in the woodlands as a common resource to be held by a community. The idea of the mountain or the weji as an ecosystem had similarly fallen by the wayside. Jilin’s merchants took ready advantage of the Province’s and indeed the Republic’s unwillingness to challenge private property rights, personally profiting from the sale of their privately held forest plots to Russian and Japanese merchants. The China Eastern (CER) and South Manchurian Railway (SMR) companies were thus able to expand their control over Jilin’s forests well beyond the immediate vicinity of the railroad. By 1924, even the CER itself admitted that “the forest zone is dwindling year by year everywhere whence timber exports are only possible – viz. in districts adjoining the railway, navigable rivers and woodless districts. This dwindling proceeds extremely rapidly, and in certain districts, where eight years ago forests covered hundreds of square miles, they actually now cover scarcely a score or two.”\textsuperscript{645}

\begin{flushright}
\textsuperscript{641} Ibid.
\textsuperscript{642} Jilin Provincial Archives, 101-7-365
\textsuperscript{643} Foreign Affairs Archives, Institute of Modern History, Academia Sinica, 03-18-029
\textsuperscript{644} Jilin Provincial Archives, 101-7-365.
\end{flushright}
Manchuria’s geography only served to make the task of protecting Chinese trees even more difficult. As seen in Figure 9, Jilin’s dense river networks further facilitated connections between the railroads and forestland not (yet) owned by foreign timber merchants. Its steep mountains and hidden hollows allowed bandits (and foreign timber merchants) ample space to hide from Chinese patrols. In 1915, Japanese merchants were discovered conducting an illegal logging operation in Huadian County 桦甸县 (today’s Huadian City), southeast of the provincial capital of Jilin City and northwest of the rich forests of the Changbai Mountain range. Officials claimed he had escaped detection due to the difficulties of the mountainous and densely forested terrain. The Chinese loggers continued to fell under the cover of night under the Japanese merchant’s direction, despite having been informed that their loggers had violated Chinese law. The County had hired 56 men to police over 500 square li646 of forest. Even that was not enough to prevent the Japanese timber merchant from running an illegal logging operation in the forests of Huadian County.647

The archive fades away after a final and generalized entreaty from a local representative of the Ministry of Foreign Affairs 外交部 for Japanese merchants to obey the Forest Law of 1914.648 The lack of confirmation of compliance (or record of an outcome) suggests that the merchant may have been able to continue his logging operation without threat of reprisal.

Circumstances in Heilongjiang proved similar, though Heilongjiang’s paucity of river tributaries meant that the “borders” could not slip into the countryside via water. In 1920, officials discovered only through espionage that the Russian timber merchant Schevchenko649 had, along with a Japanese business partner, secretly constructed a rail line to connect their illegal logging operation in the Xing’an Mountains with the CER (see Figure 10).650 A year later (in 1921), numerous warnings by Chinese officials and threats of military action had still not caused Schevchenko and his Japanese partner to abort their operation.651

In the end, though Heilongjiang officials were able to prove that Schevchenko had violated Chinese law by failing to legally purchase the land, his Japanese partner was – with the weight of the Japanese Embassy behind him – able to disavow involvement in illegal activities. Schevchenko was taken into military custody,652 while his Japanese colleague continued logging.653 In the age of the warlord Zhang Zuolin, whose control over Manchuria as a region began in 1916, Japanese military and economic influence was beyond reproach. Zhang’s power in the region came with the financial and military

646 9 square li is roughly equivalent to 1 square mile, making 500 square li the equivalent of 55.56 square miles, or slightly larger than the area of the city of San Francisco (46.87 square miles).
647 Foreign Affairs Collection, Institute of Modern History, Academia Sinica, 03-18-023-02-10
648 Ibid, 03-18-023-02-12.
649 The same “covetous foreigner” from Chapter 1 whose purchase of a plot of what had been presumed to be national forestland in Jilin had sparked an international incident.
650 Foreign Affairs Collection, Institute of Modern History, Academia Sinica, 03-18-25-04-001
651 Ibid, 03-18-25-04-18
652 Ibid.
653 Foreign Affairs Collection, Institute of Modern History, Academia Sinica, 03-18-25-04-19
support of the Japanese imperial government. This, along with the railroad and the river tributaries, was able to extend Japanese military and economic influence well into the peripheries beyond the Willow Palisade of the Qing.

Modern forestry had not saved Jilin’s woodlands, as officials had initially hoped, but rather had betrayed them. Despite the failure of the “forest” and its associated laws as a tool to conserve Jilin’s forestland against foreign powers, this did not mean that Chinese officials had declared it completely without use. It still had the potential to keep Chinese timber merchants in check. This would become especially relevant in the 1920’s, when Manchurian officials attempted to reassert their authority over forestland on the fringes of Japanese and Russian influence. An alliance with China’s merchant class proved necessary to secure Jilin’s forested spaces from both bandits and foreign interests.

Figure 13 A Map of forest concessions on the Russian-controlled CER as of 1924. Note how the dense river networks furthered the railroad’s reach. Source: North Manchuria and the Chinese Eastern Railway, pp. 184 - 5.

Modern forestry had not saved Jilin’s woodlands, as officials had initially hoped, but rather had betrayed them. Despite the failure of the “forest” and its associated laws as a tool to conserve Jilin’s forestland against foreign powers, this did not mean that Chinese officials had declared it completely without use. It still had the potential to keep Chinese timber merchants in check. This would become especially relevant in the 1920’s, when Manchurian officials attempted to reassert their authority over forestland on the fringes of Japanese and Russian influence. An alliance with China’s merchant class proved necessary to secure Jilin’s forested spaces from both bandits and foreign interests.

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654 Duara, p. 49.
Figure 14 The Heilongjiang spy's map of Schevchenko's secret railroad heading into the Xing'an Mountain Range. Source: Academia Sinica, 3-18-25-4-1

The attempt to use the Forest Law of 1914 to wrest control from the wicked merchants (jianshang 奸商) of Fangzheng County 方正县 serves as case in point. Fangzheng County is located along one of the Northeast's major river systems – the Songhua River. During the Republican period, the County lay on Jilin Province's western border with Heilongjiang. In the 1954 shifting of Manchurian provincial boundaries, it became part of today's Heilongjiang Province. As such, though much of the County was densely forested, its forests adjoined Manchuria's central plains, where agricultural and pastoral practices predominated.

As Wei Shenghe points out, due to the fact that the China Eastern Railway curved southward and away when it passed through neighboring Changshou County, Fangzheng County was spared from the initial onslaught of logging brought about by the arrival of the railroad in the region.655 The county government lost control over the region to so-called bandits in the late 1910s. I have found no record of how the land was managed without

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655 Wei Shenghe, p. 17.
the presence of timber merchants or government officials, but if the accounts I provided in the previous two sections are any indication, the bandits could have continued sporadic logging, or they could have used the area for anything from agriculture to hunting and ginseng gathering.

In the spring of 1924, the Captain of the Yingkou Naval Defense Drill Camp 营口海防练军营 reclaimed control over the area, hiring loggers to rent the rights to log in a timber plot that belonged to Yufang Company 裕方公司, shipping the logs down to the Port of Yingkou. Other timber merchants, realizing the area was now safe from bandit attack due to the presence of the military troops, returned to resume their operations. One merchant in particular, named Zhong Zhendong 鍾震東 - made significant investments in expanding his access to the timber export economy via the nearby city of Harbin, including ordering two train engines and railroad tracks all the way from the United States.657

Zhong Zhendong, along with another Chinese timber merchant named Li Fang 李芳, elected to further protect their investments by hiring soldiers from the Provincial Army as mercenaries. They named their quasi-paramilitary organization the Jilin Army Forest Protection Corps 吉林陸軍森林保安隊.658 The name in and of itself evoked the principles that the province and even the Chinese nation should have been striving for in the countryside, namely the preservation of order in forests. Nevertheless, this cooptation of provincial military power, as well as the opium plants the merchants cultivated on the side, quickly caught the attention of officials in Yilan Circuit 依蘭道. The Fangzheng County magistrate conducted a brief “investigation,” under orders from Circuit officials. The magistrate saw the light (likely with some help from the timber merchants), resulting in a declaration that the Jilin Army Forest Protection Corps was indeed necessary to protect Fangzheng’s emerging forestry industry. To convince his superiors, the magistrate created an image of Fangzheng County as containing “overlapping ridges and peaks [with] dense forests that have been made into Jilin Province’s famous timber plots 峰巒層疊，森林茂密，素為吉省著名林場.”659 This image of an abundance of forests serves as justification for protecting those who would log them, rather than protecting them.

The magistrate and merchants all justified their actions under the Ministry of Agriculture and Commerce’s 1917 guidelines for establishing public forestry associations 林业公会, which had been designed to encourage local elites to play an active role in reforesting non-agricultural land. After much debate back and forth, Jilin’s Department of Industry declared that the 1917 regulations had not meant to include an organization such as the Forest Protection Corps. A compromise was reached: the Corps would change their name to the Logging Association 採木同会, and their authority would be restricted to one township. They would also be forbidden from cultivating opium.660 In the end, the

656 A port city in Fengtian Province, or today’s Liaoning Province.
657 Jilin Provincial Archives, 101-13-275
658 Ibid.
659 Ibid.
660 Ibid.
protection of forestry as an industry and the Chinese merchants who funded it was necessary in times such as these. How else could tax revenues be assured, the magistrate pointed out. Neither bandits nor foreigners paid taxes. Yet without government support, both foreigners and bandits could easily take over Fangzheng County’s timber resources.

The arrival of the railroad had transformed Jilin’s landscape by making trees, rather than forest products, one of the region’s most primary commodities. The scale, speed, and visibility of these transformations in the landscape shocked and appalled both Chinese and foreign observers, such as this account by the China Eastern Railway’s chief forester B.A. Ivashkovich:

This wild forest country with its barely-passable mountains, tumbling rivers, and wild animals was never densely populated. Life has been lush along the big rivers since ancient times. Perhaps cultures rose and fell here several times, with one people displacing another – we do not know. The mountains, with wild tigers roaming their wild gorges, were only entered by a handful of people coming in search of ginseng, gold, and sable furs, and maybe, the easy profits to be made by robbing the caravans tumbling through the few comfortable passes. For several hundred years nobody here ever heard the sound of an axe or a saw. With the building of the railway the picture has changed dramatically, for the ruthless destruction of forest wealth began immediately. At first these forests seemed to be endless, but now, after only twenty years, the time to think about limiting this rapacious behavior has come. If the Chinese themselves do not understand the need, we must at least impose restrictions in the small piece of land that belongs to the railroad.

Despite these protestations, members of the China Eastern Railway continued to complain about the prevalence of deforestation nine years later. Something should be done, but no one knew quite what.

The “forest” as a technology for governance for preventing deforestation in the age of the railroad had failed. The same pressures that had exerted themselves along the border during the Qing – namely the difficulties of policing across borders as well as the ease of access to a variety of different markets – had made their way into the interior along the extraterritorial networks of the foreign-controlled railroad. What had once been seen as a vibrant and multifaceted resource in the minds of Jilin’s Chinese elites and officials through the weiji and even the mountain had now been transformed into forests, the sites for timber extraction for the global export market. The world and its borders had become ubiquitous, pulling Jilin’s trees out of remote recesses and into the world. All the hopes that late Qing and early Republican officials had placed in the idea of forests as preserving Jilin’s forest density had fallen through property sales, extraterritorial control,

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661 Ibid.
663 North Manchuria and the Chinese Eastern Railway, p. 174.
and global economies. As a result, reforestation became the main focus of Chinese forestry efforts in the Republican period, as we shall see in the following two chapters.
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I. Introduction

In the late nineteenth and early twentieth centuries, China existed in a world in which the global interest in forests as economic, bureaucratic, and cultural entities was on the rise. By the first years of the China’s Republican period, the United States had already established educational institutions for the study of forestry as well as bureaucratic structures for the conservation and “efficient” management of the forests in its national parks.664 Drawing upon both Tokugawan precedent and German forestry science, Meiji Japan had also developed educational and bureaucratic institutions to manage its domestic and colonial woodlands.665 To have properly managed woodlands reflected a country’s state of modernity, for culturally advanced civilizations treasured forests as much as they exploited them.

By contrast, China’s pre-twentieth century systems of forest conservation were highly localized and tied into its spiritual culture. As such, woodlands were largely preserved on mountains or tombs, rather than as independent entities in and of themselves. However, these systems for forest conservation began to fall apart in the eighteenth and nineteenth centuries due to population growth and warfare. In the early years of the twentieth century, China became an international symbol for the perils of deforestation, much in the same way that it served as an international symbol of disease.666 To wit, the British China hand Norman Shaw would publish an entire monograph in 1914 dedicated to discussing the “forest problem” in the “ancient state of China,” which was “so fraught with consequences for millions of mankind.”667

In this chapter, I will show that Republican states, officials, and elites developed bureaucratic and educational institutions designed to conserve and increase China’s forest cover. This was far from the only resource management project Chinese states undertook in this time period. However, turning a war-torn landscape into a source of timber was by far its most challenging, because it required the highest degree of public cooperation. A mine has set boundaries that are easily patrolled and has no use outside of its exploitation. The forests Republican China was to build would fill its mountains and valleys as well as line its streets and riverbanks. Their “uses” were manifold, from cleaning the air to personal enjoyment to providing building materials. How could a state protect a resource that could be everywhere?

Despite these challenges, Chinese foresters continued to advocate for reforestation programs. I argue that Chinese forestry education served as an attempt to standardize the way in which Chinese across all topographies and cultural contexts understood the space woodlands should inhabit and their role in society. They did this primarily by an attempt to standardize the language used to describe woodlands and their function. In the case of the former, they promoted the use of the Japanese loanword “senlin 森林” as a way to distinguish modern forests from premodern woodlands. In the parts of China without a timber industry, premodern woodlands in China were tied to sites of spiritual significance, such as mountains, temples and tombs. Modern forests would be secular entities that could extend to all of China’s “empty space.” Republican Chinese foresters also attempted to standardize the way in which Chinese understood the function of woodlands by publishing lists of the “direct" (i.e. material) and “indirect” (i.e. social/ecological) benefits of forests. In so doing, they turned this new concept of the “forest” into an abstract panacea that encompassed everything to do with trees.

This chapter will focus on the work of Ling Daoyang, who became a towering figure in Republican forestry through his work as a forestry instructor, official, public lecturer, and advisor for the Beiyang and Nanjing governments. His efforts to educate the public on a specific vision of nationalist forestry would shape the drafting of Republican policy as well as the content of reforestation guides across the Chinese nation.

II. Introducing the Forest to China

Modern, standardized and foreign scientific knowledge entered nineteenth-century China via new educational institutions. China’s military defeats in the Opium Wars of the nineteenth century had already inspired the creation of centers for higher education (i.e. xuetang 學堂) designed to train Chinese specialists in these new techniques. All the knowledge and techniques learned at these institutions initially had military applications. Examples include the Fujian Naval College (1866), the Tianjin Naval College (1881), the Shanghai Telegraph College (1882), and the Tianjin College for Military Medicine (1893). Hubei Province’s Railroad Division instituted the first industrial colleges – one for chemistry and the other for mining – in 1892. However, forestry was not initially associated with these industries, but rather with agriculture. The Imperial College of Beijing (founded 1898) represented the first Chinese institution where one could study agriculture and, by extension, tree-planting techniques.

This was in keeping with a growing interest in modernizing China’s agricultural production that arose following China’s humiliating loss in the First Sino-Japanese War (1894 - 5). Although China’s military defeats in the Opium Wars had inspired a desire to rethink military defense strategies, the Qing’s defeat by a country that had once been a tributary state led to a complete crisis in confidence. Both the modernizers of the 100-
Days Reform Movement (1898) and Qing loyalists alike looked to the Meiji state as a model for how to achieve an East Asian style of modernity. Rural reform had played a role in the modernizing policies of the Meiji Restoration, using Tokugawan Neo-Confucianism as the justifying principle, even if in practice Meiji agricultural policy diverged significantly from its Neo-Confucian precedents. Similarly, Chinese reformers trained in the Confucian tradition saw agricultural reform as both the duty of a Chinese and modern state.

Randall Stross notes that Qing loyalist and self-strengthener Zhang Zhidong grew interested in modernizing agriculture after the Treaty of Shimonoseki. In 1897, he invited the American agronomist Gerow D. Brill to Wuhan to advise him on modern agricultural techniques. These techniques included some that might in the twentieth century fall under forestry, such as addressing China’s “deforestation problem” through planting trees on the hillside for timber supply, as well as fruit trees in the valleys for food. However, Zhang Zhidong soon rejected American agronomy in favor of Japanese advisors and methods. Stross argues that part of the reason for this shift toward Japan lay in the less confrontational style of Japanese advisors. But another part of the reason for this rejection was the advice of another Qing loyalist reformer: Luo Zhenyu.

In 1896, Luo had already formed the “Agricultural Engagement Society 务农会” in Shanghai along with three other Qing loyalists interested in agricultural reform. The Society sponsored a periodical called “Agronomy 农学” in 1897. The periodical continued publishing original, reproduced and translated content until 1906 under the direction of Luo Zhenyu as editor. Beginning in 1898, Luo Zhenyu collated some of these reproductions and translations in a multi-volume work entitled “Selected Works on Agronomy 农学丛书.” Although some translations of Western agricultural texts made it into the volume, the collection privileged the reproduction of native Chinese texts and Japanese translations. Of the thirteen texts on agricultural tree-planting and the fundamentals of forestry, only two were not Japanese translations.

Through these Japanese agricultural texts, elite, coastal, and literate Chinese became introduced to the word that would be used to translate the Western concept of the forest: senlin 森林. Late imperial texts typically referred to woodlands by their relative location, such as mountain (shan 山), mountain woods (shanlin 山林), or tombs (ling 陵). Etymologically, the phrase senlin is quite strange in Chinese. The latter half of the compound – lin 林 – is relatively unproblematic, referring to a grouping of trees that could also be used metaphorically for any kind of grouping. In the late imperial context, common

672 靳惠著《《农业丛书》与农业科技知识的传播》《新闻爱好者》(2011年12月上半月)，pp. 78 – 9.
associations would be yuanlin 园林, meaning garden, and Konglin 孔林, referring to the Confucius Woods that serve as the philosopher’s tomb.

However, the first half of the compound – sen 森 – would be a strange choice. On its face, its three tree radicals show that it means “dense” or “full of trees.” The poet Du Fu (712 – 770) uses it in this sense in his poem “The Prime Minister of Shu 蜀相” when he refers to the outskirts of Chengdu as having “a great many cypresses (bo673 sensen 柏森森).” However, its usage in other compounds reveals its other connotations: eerie, gloomy, or forbidden. In another poem by Du Fu entitled “The Vibrancy of Autumn 秋兴,” he describes the qi on Mount Wu and the Wuxia Gorge as being “dreary and desolate 萧森.” Similarly, the phrase “yinsen 阴森” means “eerie,” as when one walks into a spooky, old forest. Phrases like senyan 森严 – meaning strict or forbidding – further contribute to the phrase’s potentially negative connotations.

The Japanese rendering of the character 森 – mori or shin – contains no such negative connotations. Alone, the character refers to a grouping of trees, such as the customary grove at a village’s Shinto shrine (chinjyu no mori). The phrase shinshin 森森 similarly refers to an area that is densely forested. Even in Chinese loanwords such as shingen 森嚴, the more negative connotations are no longer present. Instead, it means solemn. The usage of the compound shinrin 森林 in Japanese dates at least as far back as 1876, when the Geography Division of the Department of the Interior 内務省地理局 published its first series of reports on Japan’s forests.674

As we have seen, Japanese textbooks on agricultural and forestry methods served as the initial introduction of the word “forest” to the Chinese context. Volume 1, Number 8 of the “Selected Works on Agronomy 农学丛书” contains a work by Suzuki Shinzō 鈴木審三 on forestry called A Short Text on Forestry (Ringyōhen 林業篇). First published in 1893, it is divided into sections on forestry and forest protection. The former included chapters on natural forest cover (森林ノ原始及ヒ其分配ノ状態), the purpose of forest industries (森林事業ノ目的), and forest ownership (森林ノ所有). The section on forest protection outlines natural, plant, animal threats to forests.675

The publication of this text in particular was supplemented by Japan’s strong presence in China’s emerging agroforestry institutions. In the final decade of the Qing,  

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673 In modern Chinese, the character for cypress – 柏 – is pronounced bai.
674《地理寮森林報告》（1 号 -4 号）東京：內務省地理局，1876。  
675 鈴木審三《林業篇》【？】：博文館，1893.
formalized educational institutions for agriculture began to emerge on the provincial level. In China Proper, these included Shanxi (1902), Hebei (1905), Hubei (1905), Jiangxi (1909) and Shandong (1910).\textsuperscript{676} Japanese instructors were dominant throughout these institutions, as Randall Stross reminds us.\textsuperscript{677} Although only the Jiangxi and Hebei colleges were named “Agriculture and Forestry Colleges 农林学堂,” all agricultural colleges under the late Qing system offered coursework in forestry. Coursework for forestry majors ranged from core subjects such as biology, chemistry, meteorology, and geology to forest survey techniques, reforestation studies, forest use studies, forest management studies, forest protection studies, and forest laws. These were supplemented by practica in forest surveying, reforestation, forest product manufacturing (林产制造), forest management, and calisthenics (体操).\textsuperscript{678}

Despite this growth in provincial-level institutions dedicated to the study of agriculture and (to a limited extent) forestry, the Imperial College of Beijing remained China’s premier institution for the study of forestry. Coursework included subjects such as forest mathematics, geology and soil science, meteorology, forest biology, forest plant biology, forest animal biology, forest surveying, reforestation, tree illnesses, forest chemistry, forest use, forest roads, forest protection, forest management, forest administration, and forest laws. Unlike the provincial-level institutions, the Imperial College of Beijing also included coursework that instructed students in how to conduct experiments in plant and animal biology, as well as chemistry. Coursework would be supplemented by practica on reforestation, forest surveying, forest roads, and “practical matters 实事.”\textsuperscript{679}

The emergence of schools for the study of agriculture and forestry was supplemented by the emergence of national, provincial, and even local agricultural experiment stations 农事试验场. These institutions had first emerged along with the rise of scientific agriculture in the United States. The Morrill Act of 1862 gave each state a plot of federal land upon which to establish land grant colleges. These colleges were designed to train America’s farmers in new agricultural methods that had been proven to be effective through experiments in chemistry and botany. The Hatch Act of 1887 mandated that all land grant colleges include agricultural experiment stations as a vehicle to force adherence to their original mission to advanced scientific agriculture. The experiments conducted at land grant colleges and their respective agricultural experiment stations allowed American crops and farmland to become increasingly efficient. In 1860, a single American farmer supported 4.53 persons. By 1890 this number had risen to 5.77 people. In the 1960s, the individual farmer supported 26 Americans.\textsuperscript{680}

\textsuperscript{676} 杨绍章, 辛业江, p. 18.
\textsuperscript{677} Stross, Chapter 2.
\textsuperscript{678} 杨绍章, 辛业江, p. 18.
\textsuperscript{679} Ibid., p. 16.
In China, the first of these agricultural experiment stations began to emerge on the provincial level in 1902, including the provinces of Chahar, Shandong, and Fujian.\(^{681}\) The Central Agricultural Experiment Station was established in 1906 outside of Beijing’s West Gate.\(^{682}\) That same year, Fengtian established its own agricultural experiment station, followed by Heilongjiang in 1907 and Jilin in 1908.\(^{683}\) Though some did have foreign staff members (notably the Fengtian Agricultural Experiment Station with its Japanese supervisor),\(^{684}\) most had solely Chinese staff. Still, their purpose was not only to experiment with non-native seed varietals, machines, and techniques, but also to transmit this knowledge to Chinese farmers and interested literati. Some provincial stations, such as the station in Jilin, offered their own classes to train new staff members for both their own and more local stations.\(^{685}\)

New tree seed varietals and planting techniques were part of the research and educational programs offered at agricultural experiment stations. For instance, Fengtian Province’s Agricultural Experiment Station divided its land into eight divisions, three of which were specifically related to the cultivation of trees. These included: agricultural, vegetable garden, fruit tree garden, sprout garden, mulberry tree garden (for silk production), grasslands, and woodlands. In addition to mulberry trees, which were native to coastal China, other new tree species were imported to Manchuria. Some, such as Japanese white poplars and Hokkaido deciduous pines, were designed for experiments in timber trees, while others, such as Japanese peach trees and Zhili almond trees, were imported for agricultural experiments.\(^{686}\)

A bureaucratic system was beginning to emerge to support these educational and research institutions for agriculture and forestry. In 1906, the Qing established the Ministry of Agriculture, Industry and Commerce 农工商部 (MAIC). The following year, the Qing also ordered each province and county to establish a Department for the Promotion of Industry 劝业道, which included an agricultural division 农务科 in charge of forest and agricultural land.\(^{687}\) Two years later, the MAIC expanded its efforts to promote forestry through the formulation of a nine-year plan to develop industry throughout the country. The plan tied the promotion of forestry to the promotion of local agricultural associations, which would also bolster local land reclamation, silk cultivation, and tea farming efforts. The Ministry failed to launch any specific programs, aside from the establishment of provincial and local institutions for the promotion of industry. Instead, they merely mandated that provincial and local officials conduct surveys of local forestland beginning in 1909. The results of these surveys were to be compiled in year nine of the Ministry's

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\(^{681}\) 焦國模。中國林業史。台北：新文化彩色印書館，1999, p. 246.

\(^{682}\) Stross, p. 50.

\(^{683}\) 衣保中《清末东北农事试验机构的兴办及近代农业技术的引进》《中国农史》, 1988(4):85-92

\(^{684}\) Ibid., p. 85.

\(^{685}\) Ibid., p. 86.

\(^{686}\) Ibid., pp. 86 – 7.

\(^{687}\) 樊宝敏。中国林业思想与政策史: 1644–2008 年。北京：科学出版社，2009，第 100 页。
plan in a *Pictorial Gazetteer of Chinese Forests* 全国森林图志. However, no specific instructions were given as to how one might define or survey a forest, giving local officials or surveyors a lot of flexibility in how one might define the form and function of a forest.

As we have seen, forestry education in the late Qing was highly localized and tied intimately to agricultural education. Even central bureaucratic institutions only maintained loose intellectual control over the production of forestry as a knowledge system. Only one institution that specialized in forestry training existed in the late Qing. Like the agricultural colleges listed above, it was established as a response to Japanese military threat. In 1906, Fengtian Province announced they had established a unique new entity called the "Fengtian Forest College 奉天森林学堂" as a response to the establishment of the Sino-Japanese Yalujiang Timber Company. This, in turn, had been an outcome of Japanese victory in the Russo-Japanese War, which had been fought on Chinese territory over access to Manchuria’s natural resources and transportation networks. As discussed in the previous chapter, the three Manchurian provinces were all experimenting with new structures to manage forests since construction on railroads in the region began. In the nineteenth century, these were very much rooted in traditional Chinese forest management techniques. This meant that their enforcement was highly localized and focused on limiting access to designated “restricted mountains 禁山.”

The establishment of the Fengtian Forest College would signal an administrative shift to a system of forest management that more accorded with Western-Japanese methods. The College’s head administrator would be Hunanese man by the name of Guo Zongxi 郭宗熙, who had been educated in an unknown specialty at Japan’s Hosei University 法政大学 and would later become provincial governor of Jilin during the Republican period. The school’s head instructor was a Japanese forest surveyor by the name of Imagawa Tadashi 今川唯市, who had lead the second round of the Japanese Ministry of War’s survey of the forest resources in eastern Fengtian Province in 1905. The area surveyed covered both sides of the border from the Yellow Sea to Mount Changbai, mapping the region’s towns and rivers along with its forest cover. It also provided a narrative account of the forest cover by county, attributing pockets of deforestation that existed to migrants from Shandong. This made Imigawa not only an expert in forestry as a global practice, but also in how this global practice could serve the needs of local conditions.

The College’s call for students served as one of the initial public introductions of the idea of the "forest" to a non-specialized Manchurian audience. It begins by defining

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688 Ibid, pp. 84 - 5.
689 谭玉秀、范立君《20 世纪上半期国内外有关松花江流域森林资源的调查及考辨》《社会科学辑刊》（2013 年 5 期）.
690 今川唯市《長白山脈林況調査復命書》（1905 年 9 月）Tokyo University Department of Forestry Science Modern Agroforestry Historical Materials Collection, FPA:275, 5007408353
the *senlin*-forest as "the benefit of nature 自然之利." However, it was also a concept with which few Chinese were familiar. Though China has many books on the art of "planting trees 植藝," their lack of interest in the matter has resulted in "thick groves becoming barren mountains 茂林變童山." This, the call argues, would have terrible financial and ecological consequences. Should the provincial government neglect to step in and manage forests, it claims, Fengtian’s resources would disappear in twenty years’ time. By contrast, both Japan and Germany had gained national wealth through the active management of their timber supply. At the time of writing, Japan earned over 200,000 yuan in profits each year from its forests. Siam was already following their example. At the same time, “when trees are multitudinous, it is especially good for [ensuring] the earth’s qi flows, the sun and rain keep to their seasons, sowing grain is profitable, and carbon dioxide is extracted from the air for the people’s hygiene.”

Expanding and maintaining Fengtian’s forest cover was thus of vital importance for its economy and people.

However, “[before one] cultivates woodlands, one should first cultivate talent.” One hundred students should be recruited for the four-year forestry program, adding another fifty each year after that. In addition to a campus in the capital of Shengjing, students at the school would have a "practice grove 演習林" located along the banks of the Yalujiang River. There, they would learn how to bring the forest to the "empty earth隙地" that the authors argue covers much of Fengtian. Though newspaper evidence indicates they did have trouble filling their classrooms, they were able to gain a number of students, including some who paid their own way. The Shengjing Times 盛京时报 also reported that the Fengtian Forest College’s students were sent on several surveying missions of provincial forestland.

In 1910, an instructor at the Fengtian Forest College by the name of Cui Hu 崔湖 also produced a detailed set of recommendations on forest administration, management, timber production, and the promotion of reforestation techniques in Manchuria. Like the College’s call for students that had been published three years earlier, Cui Hu’s “Manchurian Forest Administration 東三省林政管理” encouraged its readers to associate the idea of the “forest” with modernity, globalism, economy, and popular welfare. “As the timber needs of enlightened countries grow greater, their forest policies become more refined,” Cui Hu declared. The text thus continued to make a case for the importance of placing forests in the hands of trained professionals, expanding the meaning of

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691 腐木盛則地氣通暘雨應時禾稼獲利吸取炭氣衛生尤宜
692 Jilin Provincial Archives, 33-1-231
693 培植林木先宜培植人才
694 Ibid.
695 魏露苓， 喻 莎《从 《盛京时报》 看晚清奉天农业学堂的创办和发展》《长 江 师 范 学 院 学 报》 Vol. 28, No. 5 (May 2012), pp. 54 – 61.
696 開明之國木材之需用愈廣森林之政策愈修
“professionalization” beyond educational institutions to include comprehensive administrative departments. Their duties would include determining the boundaries of forests, establishing timber mills and managing timber production, increasing transportation access to forestland, managing sprout farms, experimenting with new seed varieties, taxing private logging enterprises, establishing public parks, creating educational materials, hiring, training and supervising forest police, creating reforestation collectives, reforesting, and establishing forest reserves (保安林) where logging was restricted. 697

The professional, bureaucratic forester’s duties were this broad so as to ensure that Manchuria’s forests fulfilled their multitudinous functions. “In countries that have a well-developed system of forest administration, their fields are open and orderly; their roads are flat and constructed over vast areas; their rivers flow unobstructed and far into the distance.” 698 In addition to these benefits, forests also provided timber, prevented flooding, and regulated climate. These benefits covered everything from rural and urban populations to rivers, roads, and agricultural lands. 699

Though Cui Hu does not mention this directly as a benefit, his use of terms like “enlightened countries” implies cultural benefit to forests as well. Managing woodlands correctly would mean that China, too, could join the ranks of the enlightened countries. The idea of the “forest” in this sense represented a complex intersection of meanings, including economic, cultural, as well as public health and safety. Forests of all varieties also served as sites through which Chinese could connect with a global network of cultural ideals as well as scientific and economic practices. Forests thus represented an ambiguous panacea that could solve all of China’s many weaknesses, from its poor, sick people to its supposed economic “backwardness.” Although the Qing would largely ignore Cui Hu’s call to standardize forestry on a national level, professional foresters would continue to reiterate these themes in the Republican period.

III. Emerging Republican Institutions of Forest Management

Even from its inception, the Republican government made a greater effort to standardize Chinese forestry as administration, knowledge, and even culture. In the Qing, forestry had served as a way to tie localized, rural knowledge systems to global ones. But in the Republican period, official and independent foresters sought to tie forestry to the nation, creating a unified understanding of what the purpose of a forest should be across China’s diverse range of cultures and topographies. This purpose would emphasize the economic functions of trees over the alternative cultural, spiritual or ecological roles trees could play within a community.

697 Jilin Provincial Archives, 1-37-4292
698 在林政修明之國其田野開闊而正齊其道路平坦而修廣其河川疏通而遠遠達蓋森林與三者有互相維持之益焉
699 Jilin Provincial Archives, 1-37-4292
The emergence of more active, centralized bureaucratic structures in the Republican period served as one reason for the alignment of forestry with the nation. In addition to maintaining the previously established Agricultural Experiment Stations, it also established new Forestry Experiment Stations in Beijing and Tai’an, Shandong Province. The Republican state supported these with centralized, bureaucratic structures. It took the administrative framework of the MAIC and transformed it into the Ministry of Agriculture and Woodlands 农林部. In 1914, this Ministry was given the new title of the Ministry of Agriculture and Commerce 农商部. Through their quarterly bulletin, they promoted the belief the forest cover of one village, county or province was the concern of all of China’s officialdom. The bulletin included transcriptions of communiques between the Ministry and other organs of government, ranging from the Office of the President of the Republic to the Heilongjiang Provincial Government.

The *Bulletin for the Ministry of Agriculture and Commerce* also included independent articles written by both officials and independent professionals on a wide variety of topics related to resource management. For instance, the August 1915 issue included the following articles on forestry-related matters: “A Report from the Experimental Forestry Station 林藝試驗場報告,” “A Daily Account of Reforestation 造林日記,” “Manchuria’s Forests 滿洲之森林,” “A Speech on the Benefits of Forests 演講森林之利益,” “The Utility of Planting Woodlands 栽種林木之效用,” “Exhorting the People to Plant Cypresses 勸論人民廣種柏樹,” “Restoring Tung Groves 振興桐林,” and “The Charter for the Agriculture and Forestry Promotion Center 農林傳習所規章.” The locations for these articles ranged from the distant, densely forested province of Jilin to the denuded Chinese heartland. As such, the *Bulletin for the Ministry of Agriculture and Commerce* not only encouraged Chinese officials to see forests as vital to local governance, but also urged them to see that an understanding of the state of forests and forestry throughout the nation should shape their forest management practices.

President Yuan Shikai played an active role in directing the Ministry to playing a more active role in promoting forestry. In June 1915, he ordered the Ministry of Agriculture and Commerce to create a proposal for widespread, government-led reforestation projects. He justified reforestation by primarily pointing to two main issues: foreign opinion and foreign timber imports. In his account, the issues of popular livelihood and natural disasters become secondary to these issues:

> [Whenever] foreigners discuss deforested countries, they all refer to China as an example. Out of all of our products the majority are foreign imports, which has led

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700 农商公报，第二卷第一册（1915 年 8 月）
to the outward flow of our financial power. Fertile soil has become barren. At times [I] worry that our vast land and its many people are in dire straits.\textsuperscript{702}

In response to Yuan Shikai’s call to promote forestry, the Ministry of Agriculture and Commerce (MAC) established of forestry subdivisions within the agricultural divisions of its national and provincial organs. That same year, the MAC founded a Forestry Research Institution and required that each village establish forestry associations (林业公会) that would protect current forests, reforest empty land, and care for saplings.\textsuperscript{703}

Arbor Day served as another way in which the Republican state attempted to standardize knowledge about forestry. As I will discuss in Chapter 5 of my dissertation, the Republic of China first celebrated Arbor Day on April 5, 1916. First celebrated on China’s traditional Tomb Sweeping Festival (清明节) and later on Sun Yat-sen Memorial Day, scientific foresters and government officials envisioned it as a chance to promote forestry on a national scale. National, provincial, and local celebrations all served as forums to transform specialized knowledge into common knowledge. Lectures, music, tree-planting demonstrations, and educational pamphlets all aided in this process.

However, the introduction of Arbor Day only revealed how disjointed and localized officials’ understandings of woodlands were. Some, such as the provincial governor of Jiangxi Qi Yang 齊陽, justified reforestation primarily by invoking spiritual or geomantic reasoning. In other words, Jiangxi’s residents should reforest so that the flood dragons that inhabit the hills do not come out and destroy local villages.\textsuperscript{704} As we shall see in Chapter 6, other officials merely planted trees on sacred sites or to adorn local landscapes, rather than for economic purposes. This local focus on non-economic forestry caused professional foresters to complain that China’s officials and literate elites simply did not understand the fundamental principles of forestry well enough to help raise China out of poverty. As the Japanese-trained forester and forestry textbook author Chen Zhi 陳植 would declare in 1930: \textsuperscript{705} “Today’s afforesters all mistake 'planting trees' for 'reforestation.' This represents the true reason for our [nation’s] continued failure.”\textsuperscript{706}

IV. Republican Textbooks and Ling Daoyang

In this context, national textbooks published in mainstream presses such as the Shanghai-based Commercial Press (商务印书馆) served as a method for standardizing knowledge about forestry and aligning it with the goals of the nation. Foreign-trained

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\textsuperscript{702} 外國人論森林缺乏之國，每引中國為例。所有產料多由外輸，遂致利權坐溢。沃壤就荒廣土，眾民時虞艱困。

\textsuperscript{703} 陳嵘。著。历代森林史略及民国林政史料。南京：金陵大学农学院森林系林业推广部，1934 年，pp. 72 - 7.

\textsuperscript{704} 江西巡按使，（劝植树白话）江西省农会报，第 8 期 （1916 年）。

\textsuperscript{705} 陳植。造林要義。上海：商務印書館，1930，p. 1.

\textsuperscript{706} 今日營林者，類皆誤以「植樹」為「造林」，此殆失敗癥結所在焉
foresters dominated the field of textbook production. Some, such as the Beiyang period's two most prominent foresters Han An 韩安 and Ling Daoyang 凌道扬, were part of a growing number of Chinese studying agricultural sciences in the United States and Japan. Others were trained at the University of Nanking's Agriculture and Forestry Department. Founded in 1915 by the Irish-American missionary Joseph Bailie, the Department used American textbooks and hired American forestry specialists to serve as instructors. Though it got off to a rocky start, by the 1920's it had become known as the premiere institution for forestry in China under the leadership of John Reisner, even attracting one of the stars of the U.S. Forest Service Walter C. Lowdermilk to its ranks.  

Just as Japanese language and theories shaped the development of late Qing agronomy and forestry, American thinkers came to influence the Republic's first generation of foresters. For instance, in 1916, a man from Jiangsu Province by the name of Hu Shien-sung submitted his Master's thesis “Conditions Fundamental to Reforestation in China” for a degree in Agriculture at Cornell University. Although he did not go on to write forestry textbooks, his thesis reveals how American forestry education encouraged students to not only see forests on the scale of the nation, but also to see its purpose as primarily economic. His introduction begins by situating China's material needs within the context of global material markets:

There is nothing in the world, either for luxury and comfort, or for human needs, that can do away with wood completely ... With the development of modern industries, such as railroads, mines, modern factories, etc., more wood will be consumed than ever before, and with the scanty supply that China has now, it is inevitable that she will rely more and more on foreign supply, and that supply, aside from heavy cost, is not always of the best and most reliable quality.

In short, Hu argues that having timber supplies is of particularly vital importance to maintaining a modern economy due to the reliance of "modern industries" on timber to function. Bridges need beams, railroads need ties, and everything needs paper.

However, Hu also claims that China did not have much in the way of timber resources due to the presentism and selfishness of its people.

China is one of the richest countries in the world in natural resources, but among the poorest in timber supply. History reveals that centuries ago, China, as well as other countries, was covered with vast areas of forest land, but private enterprises and private interests, aiming to obtain the greatest possible personal and present gain, and with wanton disregard of the future, began to squander and exploit the forests, until now, with a few scattered woods here and there and some thin forests

707 Ibid, pp. 84 - 90.
708 Hu’s province of birth and degree can be found in: General Circular of Information, 1912 – 1913. Ithaca, NY: Cornell University, 1912, p. 450.
in the remote and isolated regions, China is almost devoid of native timber supply.\textsuperscript{710}

The solution, Hu argues in the rest of his thesis, was to simply plant more trees. Hu presents his own reforestation methodology, including recommendations of tree species to be planted in three of China’s most deforested regions. He further recommends educational programs sponsored by each of the provincial governments to teach the people why and how to plant trees. A carrot-and-stick approach, such as tax-exempt status for lands that were the subject of reforestation efforts and the criminal punishment of those who harm public trees, should also be employed.\textsuperscript{711}

China’s deforestation problem, in short, was seen as devastating financial, moral, and ecological problem with a seemingly simple solution. All it took was public awareness and legal wherewithal, and China could join “all the civilized nations” that had ample forest preserves. China’s emerging class of foresters would be the font of this knowledge, supported by agricultural schools, experimental agricultural stations, and bureaucratic structures all designed to increase China’s forest cover.

Throughout the Republican period, the American-trained forester Ling Daoyang 凌道扬 (1888 – 1993) served as one of the key sources of knowledge about Chinese forestry for both Chinese and foreign audiences alike. Born in Shenzhen, Guangdong Province, Ling was educated in one of Guangdong’s missionary schools. He used his skills in English to earn himself a position as an English instructor at the Qing’s Banner School 八旗学校 in Beijing in 1909. The following year, he left for the United States to study at Massachusetts Agricultural College (today’s UMass Amherst). He went on to earn a M.S. in Forestry at Yale, graduating in 1914. Upon graduation, Ling returned to China. He would serve as a specialist in the Ministry of Agriculture and Commerce, the chairman of the University of Nanking’s Forestry Department, advisors to both the Ministry of Transportation and the Office of the Shandong Provincial Governor, director of the Qingdao Agriculture and Forestry Experiment Center 青岛农林试验所, professor at Peking University’s College of Agriculture, specialist at the Nationalist Government’s Ministry of Industry, the Minister of Guangdong’s Ministry of Agriculture and Forests, a member of the Yellow River Management Committee, etc.\textsuperscript{712} In short, his study of forestry and service as a professional forester in China took him around the nation and required him to engage with thinkers around the world.

Ling Daoyang first published his first Chinese-language textbook in 1916 entitled \textit{The Great Meaning of Forest Studies} 森林学大意. The work was designed for a general audience, providing a general introduction to forests as a concept, aligning it with international knowledge and nationalist ideals. The chapters of his work include “The

\textsuperscript{710} Ibid., p. 1.
\textsuperscript{711} Ibid., pp. 46 – 53.
\textsuperscript{712} 刘楠楠《凌道扬：中国近代林业科学先驱》中国档案，（2016 年第三卷），p. 82.
Benefits of Forests 森林之利益,” “The Success of Each of the Nations in Forests 各国森林之成绩,” The State of China’s Deforestation 中国森林缺乏之状况,” “Foreign Assessments of China’s Deforestation 外人对于中国森林缺乏之评论,” “The Place of China’s Forests in the World 中国森林在世界之位置,” and “Suggestions as to Methods for Implementing Forests 森林实施方法之建议.” The entrepreneur and politician Zhang Jian 张謇 (1853 – 1926) wrote the preface to this volume, placing Ling Daoyang both within the tradition of international, modern industry and native Confucian tradition. He writes:713

Ling Daoyang has studied forests and has the will to implement them [i.e. reforest China]. The great meaning of forests that he describes is spoken of in great detail in the context of the global condition of forests. He also has a deep understanding of the pain of China’s timber scarcity. His book is worthy of consultation for any person interested in forests. Mencius said: “For seven years of sickness, one needs to search for three years to find the mugwort [to cure it].” Is this book the Classic of Searching for the Mugwort?714

By invoking Mencius’ mugwort analogy, Zhang Jian argues that Ling Daoyang has found a panacea for China’s ills. By increasing China’s timber supply, modern foresters would ensure the nation’s economic security.

An English edition was also published in that same year under the title Chapters on China and Forestry that included a preface by the chair of the University of Nanking’s Department of Agriculture and Forestry Joseph Bailie. Ling Daoyang designed it specifically for use at missionary schools so that they, too, might contextualize Arbor Day celebrations in their classrooms. In the preface, he notes the lack of familiarity among Chinese with the concepts and benefits of forestry.

While traveling and lecturing in the different parts of China, the writer has time and again been asked questions like the following: "What is forestry?" "How important is forestry in a country?" "Can it be as important as agriculture?" "What are the economic effects of forests?" "How are forests related to streamflow, soil erosion, temperature, evaporation, floods, shifting sand, silting up of rivers, aesthetics, sanitation, etc.?" "What has forestry done in other countries?" "What have been the results of deforestation in China?" "What if China had taken up forestry?"715

As such, Ling Daoyang’s work was designed to introduce a non-specialist audience to the basics of understanding forests. In the context of China, this meant viewing each individual locality’s forest cover (or lack thereof) in terms of the needs of a nation. “It is sincerely hoped that these few chapters may help in a way to hasten the awakening of

713 凌道扬。森林学大意。上海：商务印书馆，1916 年，p. 2.
714 凌君道扬，学森林而有实行之志，其所述林学大意，于世界森林状况言之甚详，且深知中国木荒之痛，其书足供有志森林者之参考。孟子曰：‘七年之病，求三年之艾。’是书其求艾之径也夫？
715 Lin Dau-yang [Ling Daoyang]. Chapters on China and Forestry. Shanghai: Commercial Press, 1916, p. i. (italics mine)
our people as a whole to the importance of forests in the life and happiness of a nation," he declares. As such, in the vision of Ling Daoyang, even the individual's relationship to trees and woodlands should have a modern, and national character. Furthermore, this modern relationship with trees would have the effect of creating a happy China.

Chapters on China and Forestry includes much of the same material as the Chinese text upon which it is based (The Great Meaning of Forest Studies). It begins by outlining the general purpose of forests and forestry, claiming:

Whilst all other business exists for the benefit of the owner, the business of forestry is expected to react beneficially on the welfare of the country. It must be borne in mind, however, that the underlying idea of forestry is continuity of use. By that we mean proper use, and not non-use. The best use consistent with maintaining the forest for future use should be the aim of all forestry practices.

In short, Ling Daoyang continues his overview of forests by encouraging his readers to see forests through the lens of the nation. This meant that forests should be used in the most efficient way possible, rather than simply conserved for the sake of conservation. In this way, forestry was the "twin sister of agriculture," to use Ling's phrasing.

Further in the chapter, Ling also makes the claim that forests are just as important to a nation as agriculture, because they allow "every foot of soil . . . [to] be devoted uninterruptedly to that production under which it pays best." Thus, Ling Daoyang envisions forestry as allowing China to achieve a state of pure, and efficient production. "The point raised ought to open our eyes, as Chinese citizens, to the existing conditions of our lands," he concludes. Yet despite this claim, Ling Daoyang makes little effort to explain exactly what the conditions of China's lands were. Nor, for that matter, does he even explain what exactly a forest is other than simply a grouping of trees that could cover any space not reserved for housing or agriculture. "China has always been held up before all civilized nations as a horrible example of forest neglect," he declares in a later section. To make this claim, he cites anecdotal evidence from foreign observers as well as his own personal observations of a slab of wood from Sichuan, abandoned tea farms in Fujian, and flooding and fire in Zhejiang. The forest, in this sense, represented more an ambiguous idea that China should have more trees based on foreign statistics and impressions of China's landscape, material deficits, and ecological problems.

Still, the forest was something in that it could shape China's material production, ecology, and culture. The forest, in other words, is only important insomuch as it is useful to humanity. Ling emphasizes this point through an entire chapter devoted to the "direct" and "indirect utilities" of forests. Direct utility includes the material benefits of forests,
ranging from wood and wood byproducts to the wealth gained through the sale of wood and employment of forest laborers. Indirect utility, by contrast, refers to all functions of a forest that do not directly relate to the economy. Ling claims that these include: creating a more agreeable climate, increasing humidity, increasing precipitation, regulating streamflow, preventing erosion, reducing flood severity, housing useful animals, conserving water resources, improving national health, increasing a country’s beauty.723

This general division of direct and indirect utility was first advanced by the German-American forester Carl A. Schank, who founded the first school for forestry in the United States in 1898. However, his 1909 description of indirect utility differs somewhat from that of Ling Daoyang. He lists indirect utility as including: hygienic benefits, soil and air temperature, moisture, and preventing erosion.724 He neglects to mention housing animals, increasing precipitation, and increasing beauty. In fact, Schank argues that, contrary to the established science at the time, there is no evidence that forests increase precipitation rates.725 Nevertheless, Ling Daoyang does not reference this literature in his 1916 text, merely declaring: “The results of 30 odd years observations [sic] made at Nancy with 3 stations, – situated inside, on the edge of, and outside the forest – show a decided increase in rainfall in the forest.”726 It should be noted that this debate was by no means resolved in 1916. As late as 1970 foresters were still debating the extent to which forest cover might contribute to precipitation rates.727 As such, though Ling Daoyang borrows from an American framework and emphasizes the similarities of his ideas with those of global forestry science, he is also establishing his own framework unique to China.

Through these descriptions, Ling emphasizes the importance of the Chinese public seeing forests through the lens of the political economist. This assertion is supplemented by general statistics from Germany claiming that the forest industry earns the country G$150,000,000 per year, which supports a population of 3,000,000 people. This is followed by a series of more detailed charts that show the wage benefits forestry has brought to the states of Washington, Oregon, and Idaho. In these three states, forestry supports a total of 64,027 workers, or 60.4% of all wage earners. They were further allotted 59.7% of all industrial wages.728 However, Ling does not provide his readers with information on the forest cover in Northwestern United States to contextualize these figures.

Nor, incidentally, does he provide much information as to how a country might develop forests so that they could reach this level of “productivity.” Ling Daoyang merely proposes propaganda and other educational efforts, such as lectures sponsored by local agricultural colleges and forestry associations. “Lectures if made graphic by models, charts, and specimens will be most educative and effective in arousing public interest,

723 Ibid., pp. 7 – 8.
726 Chapters on China and Forestry, p. 20.
728 Chapters on China and Forestry, pp. 13 – 15.
and this has been found to be so through experience by the writer."\textsuperscript{729} Some examples of charts are provided in \textit{Chapters on China and Forestry}. Table 1 lists the number of personnel employed in the forest services of six countries, ranging from Russia with 36,259 and India with 10,508 to Japan with 2,872 and China with a mere 70. Table 2 provides a list of forest service expenditures in six countries, ranging from Germany with 46,368,000 Marks and the United States with 9,500,000 to Austria with 4,865,000 and China with a mere 181,000.\textsuperscript{730} In each case, the chart speaks to China’s place in the world through the lens of forestry as political economy.

In his final section, Ling Daoyang acknowledges the cultural practice of forestry in some parts of China through a discussion of “promoting and preserving useful existing customs.”\textsuperscript{731} The practice of planting a grove to celebrate the birth of a son in Yanping County 延平县, Fujian Province serves as one such example. The family then cuts down this grove on the son’s twentieth birthday. The profits from the sale of the timber are used to defray the costs of his wedding. Though this is a custom particular to Yanping County, Ling Daoyang hopes that it could be adopted throughout the Chinese nation. In so doing, it would serve to promote the economic practice of forestry in a way that is simultaneously relevant to Chinese cultural conditions.\textsuperscript{732}

Ling then moves on to speak more broadly about fengshui as a “useful existing custom.” According to him, the Chinese belief in fengshui has resulted in the conservation of pockets of woodlands in the vicinity of monasteries and other sacred spaces. However, “the sentimental appeals of priests and poetical associations of places and scenery and even the powerful considerations of fungshui appear to be on the wane, and to be giving way to more utilitarian views.”\textsuperscript{733} These "utilitarian views" presumably refer to agriculture, housing, or modern construction projects, rather than forestry. Ling then muses: “it is time that something be done to revive and to preserve these old but useful ideas, and this can only be done through some organized effort. Perhaps the central government can do it readily by co-operating with local clubs and guilds.”\textsuperscript{734}

As will be explored in greater detail in Chapter 5, this process of promoting national forestry by drawing on Chinese custom had already begun. The celebration of Arbor Day on the same day as Tomb-Sweeping Festival 清明节 served as an attempt by the Republican state to harness the custom of planting trees on graves and tombs for the purposes of expanding its forest cover. Central officials in the Ministry of Agriculture and Commerce, who coordinated the ceremony, thus did not see culture and “superstition” as anathema to the goals of state forestry. However, they needed to be recoded and harnessed for the goals of \textit{national} political economy.

\textsuperscript{729} Ibid., p. 76.
\textsuperscript{730} Ibid., pp. 71 – 2.
\textsuperscript{731} Ibid., p. 78.
\textsuperscript{732} Ibid.
\textsuperscript{733} Ibid., p. 79.
\textsuperscript{734} Ibid.
In 1918, Ling Daoyang published another textbook with the title *An Overview of Forests* 森林要览. As compared to his 1916 volumes, this one places an even greater emphasis on the place of Chinese forests in the context of international political economy. On the very first page, scholar and May Fourth revolutionary Cai Yuanpei inscribed the phrase “the ten-year plan: trees 十年之计树木” in his own calligraphy.\(^{735}\) This served to link the study of forests to the social and political programs advocated by the members of the “Chinese Enlightenment.”\(^{736}\)

Put another way, Cai Yuanpei was part of a generation of Chinese intellectuals in the late 1910s and early 1920s who sought to incorporate Western thought with Chinese nationalism. The Chinese Enlightenment, which is a term coined by Vera Schwarcz to refer to thinkers who immediately predate the May Fourth Movement. The group was informal and centered around the teachings and writings of men such as Cai Yuanpei, Hu Shi, and Chen Duxiu. As Schwarcz points out, the movement included a faith in Western science, much as the European enlightenment did. In fact, Cai Yuanpei was instrumental in promoting an educational worldview that emphasized scientific reasoning, rather than merely teaching scientific techniques as his predecessors had done. Adherents to these beliefs were just as interested in dialectics and philosophy as they were in the natural sciences. As such, like its European counterpart, the Chinese Enlightenment as a whole was against popular superstition. Members believed that popular education campaigns, such as the one suggested by Ling Daoyang, were necessary to reform Chinese culture with the help of a new, modern worldview.\(^{737}\)

Ling Daoyang’s own preface further suggests links to the Chinese Enlightenment. During his time abroad, Ling witnessed Western foresters using pictures of barren Chinese landscapes in their lectures to teach their students about the devastating effects of deforestation. Ling complains:\(^{738}\) “Every time foreigners refer to the damage of China’s barren mountains it becomes a warning to the people of that country. This [means] that on the inside [they] receive a careful warning against this loss, but on the outside laughter and denigration remains.”\(^{739}\) Much like the May Fourth author Lu Xun would later describe in the preface to his first collection of short stories *Call to Arms* 吼呐,\(^{740}\) Ling Daoyang describes this as an edifying experience that motivated him to pursue forestry for the good of the Chinese nation.\(^{741}\) As such, Ling situates his work within the context of the modern, nationalist education movement promoted by men such as Cai Yuanpei. However, unlike his May Fourth counterparts, Ling Daoyang does not categorically reject “superstition.”

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\(^{735}\) 宋道扬。森林要览。上海：商务印书馆，1918，unmarked page 1.
\(^{737}\) ibid., pp. 95 - 101.
\(^{738}\) 宋道扬。森林要览。上海：商务印书馆，1918, p. 1.
\(^{739}\) 外人每引中国山岭荒废之害为彼国人之戒是内受慎失而外贻笑侮也
\(^{741}\) Ling Daoyang, p. 2.
Rather, like the Ministry of Agriculture and Commerce, Ling sees both superstition and economic rationalism as complementary in the pursuit of a forested China.

Nevertheless, Ling Daoyang does not attempt to educate the literate Chinese public on the principles of forestry through the lens of folk religious practices. *An Overview of Forests* includes a far greater number of charts and graphs than Ling Daoyang's previous volumes. Each one was designed to situate China's timber economy within a global context and to reveal it wanting. The very first graph (Fig. 1) compares the forest cover of six countries: Russia, the United States, India, China, Germany, and France. In this graph, China comes out above Germany and France at a little under one hundred million (of some unspecified unit of measurement). However, China's forest cover falls behind those of the larger three countries, particularly those of Russia and the United States.
In case his readers are unfamiliar with the relative size of each of these six countries, the next graph (Fig. 2) depicts the percentage of total land mass covered by forests in six countries. All of the countries in Figure 1 are reproduced here, with the exception of France, which is replaced by Japan. This graph reveals that China's percentage of forest cover at less than 10% lags far behind the rest of the nations. Here, Japan leads the pack at a little less than 60%, followed by Russia at a little under 40%, the United States at under 30%, and then Germany and India at around 25%.

*Figure 15 "A Comparison of the Forest Cover in Several Countries." Source: 森林要览, p. 4.*
The remaining graphs continue to reinforce this message of China’s inadequacy relative to other nations. The third graph depicts the number of administrators engaged in forest administration; the fourth depicts the amount of funds spent on forest administration; the fifth depicts the amount forests bring in as income, etc. Ling Daoyang then provides a detailed chart of the administrative structure of the United States’ Forest Service. However, he fails to provide a chart of China’s emerging forest administrative structure. This absence of a chart serves as a statement in and of itself, for how could Ling Daoyang draw a chart of institutions that did not exist? This, as we saw above, was not strictly speaking true. The Ministry of Agriculture and Commerce drafted and executed national policy when it came to forests. However, its structure was nowhere near as complex as that of the U.S. Forest Service, which, according to Ling Daoyang’s chart,
contained a total of eight separate bureaus 局, each in charge of anywhere from twenty to twenty-four forest districts 林区.\textsuperscript{742}

Only after twenty-one pages of charts and narrative that depict China as lagging far behind in terms of global forestry does Ling Daoyang begin to discuss the function of forests. As in his previous works, he divides forests into direct and indirect utility. He chooses to superimpose them on an image of a divided fan (Fig. 3), suggesting an effort to tie Western forestry science to Chinese tradition. Examples of direct (i.e. material) utility are placed on the right, where a Republican reader’s eyes would be directed first. Examples of indirect (i.e. ecological or cultural) utility lie on the left. In order to ensure that the number of examples is equal on both sides, Ling provides more detailed examples of timber and forest products than in his previous works. These range from medicinal products derived from fruit pits 果核药料 to tung and pine oil 桐油松油.\textsuperscript{743}

The list of examples of indirect utility is nearly identical to those listed in his previous work. They include (from right to left): creating a more agreeable climate, increasing humidity, regulating precipitation, regulating streamflow, preventing erosion, reducing flood severity, housing animals, increasing oxygen, and increasing a country’s beauty.\textsuperscript{744} With the exception of the replacement of “conserving water supply” and “increasing national health”\textsuperscript{745} with “increasing oxygen,” the order and content of each list remains the same. As such, the 1918 list does represent an evolution in thought for Ling Daoyang, though a minor one. The nature of a forest’s “utility” to society remained fundamentally the same. That is, economic and material benefits remained more important than ecological or cultural ones. At the same time, ecological benefits for urban spaces (e.g. temperature and humidity control) ranked more important than benefits to rural spaces (erosion and flooding), which in turn ranked higher than benefits to animals and aesthetic values. As such, Ling Daoyang encourages his elite Chinese readers to see forests as part of a hierarchy of space that privileged the national economy and the city above all else.

\textsuperscript{742} Ibid., p. 20.
\textsuperscript{743} Tung oil is used to finish wood. Pine oil has mostly medicinal functions due to its status as a natural disinfectant.
\textsuperscript{744} 森林要览, p. 22.
\textsuperscript{745} Chapters on China and Forestry, pp. 7 – 8.
Ling Daoyang was not the only one to point to the importance of viewing forests from the light of the timber crisis. Articles published in the *Bulletin of the Ministry of Agriculture and Commerce* also pointed to the importance of timber in China's political economy. For instance, in 1917 a student at Tsinghua University by the name of Lu Mosheng 羅默生 published an article in the *Bulletin* titled "The Value of Chinese Forestry to Industry and Society 中國林務對於工業及社會之價值." In it, Lu describes the competitive world in which China exists now that it has opened its ports freely to global trade. In it, Lu describes the competitive world in which China exists now that it has opened its ports freely to global trade.746 "[Our] nation [exists] in the midst of today's world that tends toward competition. When the competition becomes more intense by the day, a country's industry cannot be

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746 A man by that name is listed as the English language editor for the *Tsinghua Journal* for the year 1919. See: 《清华学报英文版的传播与首创》《清华大学学报(哲学社会科学版)》2006 年 03 期.
747 羅默生《中國林務對於工業及社會之價值》農商公报，第 4 卷，第一冊（1917 年 8 月）。
provided with cheap timber and fuel. What a great loss in profits!

By developing forests, the only natural resource China lacks, the nation can help develop its industry. “Forest Studies is not limited to art. To protect forests is [a measure that] is today truly necessary to conserve civilization and industry 林学不止于美术。保护森林。实为今日保存文明与工业之要素.” As such, Lu Mosheng makes many of the same points as Ling Daoyang.

However, Lu Mosheng does not use the phrases “direct and indirect utility” to describe forest benefits. These phrases, first popularized in China by Ling Daoyang, would become the staple of Nationalist reforestation manuals following the so-called “unification” of China under the GMD in 1927. In fact, the first reforestation manual designed for a public audience “An Introduction to Reforestation 造林浅说” was published by the Peking University’s Department of Agriculture in March of 1930, at the same time when Ling Daoyang served as one of its professors. Its first pages featured a portrait of Sun Yat-sen, declaring: “The Revolution has not yet succeeded. Comrades, you must carry on! 革命尚未成功！同志仍需努力！” The work’s preface further places reforestation within the context of the nation’s material needs, after which it lists the “direct and indirect benefits” of forests. This 1930 version of the list had grown to include more types of materials derived from trees, such as rubber and “additives 添料.” The indirect benefits have also increased in number to include abilities such as preventing tsunamis and “influencing the mind 感化精神.” Reforestation guides published in the 1930’s would continue to rely upon this model to explain why one should reforest (Fig. 4). Direct (i.e. material) benefits are always given prominence, promoting an ideal in which every locality contributes to China’s economic production with only secondary thought to their social or ecological needs.
As in the case of the previous texts authored by Ling Daoyang, the term “forest” is left undefined in this 1918 textbook. Nor is specific information provided about the state of forest cover in any Chinese locality. Rather, China’s forests are seen through the lens of the nation, which means they are found wanting. Every province and locality, regardless of climate or soil quality, should promote forestry through the planting of trees. The final non-photographic image in the volume depicts China surrounded by slabs of timber with the names of foreign places, including Russia, the United States, Canada, Southeast Asia, Africa, and Japan (Fig. 5). This is followed by photographs ships in Tianjin, as well as two photos of barren landscapes in Zhili Province.

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752 Today’s Northern Hebei, Western Liaoning and Eastern Inner Mongolia.
753 森林要览, pp. 28 – 9.
Despite the overwhelming scope of China’s forest problem, Ling Daoyang ends with a message of hope. The final section includes a flow chart of the tasks of the newly formed Chinese Forest Association 中华森林会, of which Ling Daoyang was a founding member. Based in Shanghai, this group included a mix of foresters and members of the educated public, such as the public education advocate Guo Bingwen 郭秉文 (1880 – 1969), as well as industrialists Liu Hongsheng 刘鸿生 (1888 – 1956) and Nie Yuntai 聂云台 (1880 – 1953).\footnote{Jilin Provincial Archives, 101 – 11 – 285.} In Ling Daoyang’s text, the Association’s tasks are divided into two

\footnote{Jilin Provincial Archives, 101 – 11 – 285.}
categories: advocacy 提倡 and reforestation 造林. The former includes general education efforts, such as lectures and creating forest publications. The latter includes surveying all “land upon which there is trees 树土,” creating sprout farms, and establishing methods for protecting woodlands. Nevertheless, his work proposes no specific measures to reforest empty land or protect existing forestland.

This was not the first time the reading public had heard of the Chinese Forest Association. In 1917, the Bulletin for Agriculture and Commerce 农商公报 submitted a public letter to the National Assembly entitled “Four Principles for Agriculture and Forestry 农林四则.” The Association begins by declaring:

The great plan for the founding of our nation is not to take the benefits of the earth from outside [the country] in order to provide for the people’s livelihood. Agriculture and forestry are the primary [means for] extracting benefits from the earth. This specifically provides for the people’s livelihood in the form of food and everyday use. As a result, all the countries from East to West emphasize both forests and agriculture.

In writing this passage, the Chinese Forest Association constructed an image of forests as intimately tied to not only China’s native agricultural tradition, but also global statecraft.

This set the stage for the Association’s request that the Ministry of Agriculture and Commerce increase the number of officials assigned to manage forest-related projects. The Association acknowledged that “for the past two thousand years, the [Chinese] people have not even known to make reforestation a task. Nor has the government known to make forest administration an important goal 二千年以来，人民既不知造林为业务。政府又不知林政为要图.” This meant that China’s land has gradually become deforested, reaching its current state only recently. As we learned in Chapter 1, the historical accuracy of this claim is questionable. Ian Matthew Miller has shown that Chinese governments became less interested in woodlands management only beginning in the Song Dynasty. Yet in the Association’s rendering, Chinese culture and administrative practices are to blame for the nation’s deforested landscape. To change that culture would require concerted effort.

Ling Daoyang’s 1918 work serves as an extension of the Chinese Forestry Association’s goals. In fact, all of his works encouraged literate China to recognize that China was a uniformly and abnormally barren country. That is, they merely makes the case for the scope and importance of the timber problem. Though they claimed to serve

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755 森林要览, p. 31.
756 上海中华森林会《农林四则》农商公报，第 3 卷第 10 号，p. 13.
757 立国之大计，不外取土地之利以供人民之生活。土地之取利，首在农林。人民之生活专资食用。
759 Miller.
as an educational treatise on forests, they offered no definition for what a forest should look like, nor how Chinese should create them. Even the photographs in his volume only depict barren landscapes, encouraging readers to think all of China was as barren as the coast. In his texts, Chinese forests were only knowable through the lens of political economy and the nation.

The constructed, superficial, and nationalistic nature of Ling Daoyang’s work becomes especially clear when contrasted with the British China hand Norman Shaw’s 1914 treatise on Chinese forests. Chinese Forest Trees and Timber Supply, like Ling Daoyang’s work, offers only an impressionistic view of China’s forest cover based on the testimony of foreign travelers. Nevertheless, it provides a highly differentiated account of the customs, climates, tree species, and forest cover found in Chinese territory. The book’s second chapter “General Description of Forests” is one hundred and thirty-eight pages long. It is divided into sections based on each of China’s provinces. However, the three northeastern provinces were treated as the single entity “Manchuria.” Each section contains information about the province’s climate, the location of some of its forests, and customs regarding logging and forest protection. Thirty-three images supplement these narratives, covering subjects such as a temple forest preserve in Beijing’s Western Hills, a “timber-laden junk,” Koreans logging along the Yalu River in Manchuria, a deforested section of Zhili Province, coffins, the trees of “General Ma’s Avenue” in Gansu Province, and images of eleven separate Chinese tree species.  

As the varied subjects of these images suggests, Shaw actively disputes the narrative of a barren China filled with a people with a particularly strong antipathy toward woodlands. “To suppose that the Chinese have worked this dire destruction because they are lacking in appreciation of natural beauty is one of the fallacies which are current among the nations of the West.” Rather, Shaw attributes coastal China’s deforestation problem to the upheavals of the nineteenth century, during which time fires and anti-religious sentiments ravaged forest preserves and decimated local populations. Where forests survived, “new settlers . . . knew and cared little for the sacred character of the groves, and ere long completed the work of devastation in the hillsides.”

Ling Daoyang fails to offer such a differentiated view of China’s forests. Rather than encouraging his audience to view reforestation or forest protection from the perspective of local needs, he urges them to view local forest cover and customs as fundamentally linked to the needs of the nation. Forests should thus be known not through personal experience or tradition, but through statistics, graphs, and charts that place the Chinese nation within a global context. Every village, county and province should thus reforest for the good of the nation, whether their soils and climates were suited to trees or not.

As Chapters 5 and 6 will explain in greater detail, this nationalist and abstract vision of forestry was actively promoted by the Ministry of Agriculture and Commerce in its attempts to direct reforestation efforts. Through the institution of the Arbor Day celebration,

761 Ibid., pp. 20 – 1.
762 Ibid., p. 19.
each county was directed to plant trees as a symbol of their loyalty to the nation on the exact same day (on Tomb-Sweeping Festival early April), regardless of the suitability of the climate to reforestation at that particular season. Even in a remote province such as Jilin, where direct control by central forces was minimal and the provincial rate of forest cover was high, few magistrates completely ignored this mandate. However, inexperience with tree-planting techniques and the unsuitability of certain climates toward reforestation undermined these efforts. For instance, in 1918, the magistrate of Binjiang County, Jilin Province remarked that few trees from the previous two years of reforestation efforts had survived due to his county’s windy and dusty climate. Nevertheless, as “the benefits from planting trees are extremely great,” including cleaning the air, increasing soil fertility, moderating temperature, and preventing flooding and drought, he supervised the planting of two hundred willow trees with the hope that they might survive and bring these benefits to his county.\footnote{Jilin Provincial Archives, 101 – 6 - 1378} This practice of seeking to reforest areas with soil conditions or climates where trees do not easily grow remains a hallmark of Chinese forestry to this day.\footnote{Hong Jiang, “Taking Down the ‘Great Green Wall’: The Science and Policy Discourse of Desertification and its Control in China,” in R.H. Behnke and M. Mortimore (eds.), \textit{The End of Desertification? Disputing Environmental Change in the Drylands}. Berlin: Springer Earth System Sciences, 2016, pp. 513 – 36.}
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谭玉秀、范立君《20 世纪上半期国内外有关松花江流域森林资源的调查及考辨》《社会科学辑刊》（2013 年 5 期）．


魏露苓，喻莎《从《盛京时报》看晚清奉天农业学堂的创办和发展》《长江师范学院学报》Vol. 28, No. 5 (May 2012), pp. 54 – 61．

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"China Restoring Forests: Republic Suffering Severely as Result of Stripping Woods," the New York Times declared in 1913. The article, which covered the diplomatic visit of Z.T. Yui 余日章 to the United States Forest Service, was comparatively short. Not surprisingly, the Times chose to place it deep within the October 4th issue. Yui's visit, after all, did not hold a candle to the other grand events of the month. In the end, the article served as a simple curiosity piece, designed to elicit feelings of schadenfreude from urban American readers. Confronted by the poverty of Chinese land, the American reader was expected to feel pride in and gratitude for America's vast forestland. In the New York Times' view, the presence of a large and thriving forest to complement growing urban centers thus played a critical role in determining one's place in the hierarchy of nations.

Z.T. Yui – the Harvard-educated secretary to the vice president of the fledgling Republican government – had two difficult tasks in front of him. Not only did he need to acquire the knowledge and administrative technology necessary for the Republican state to conduct a massive national reforestation project, but he also needed to convince the American public that China was on the cusp of a great change, that the Chinese landscape would soon allow the nation to be on par with the United States. With regard to the latter task, at least, Yui proved moderately successful. The New York Times article described deforestation as an artifact of China's past, the result of centuries – nay, millennial! – of superstition completely at odds with the Republican government's modern approach to governance.

The loss of forests in China, Mr. Yui says, not only has had serious effect on the rainfall but has but has resulted in serious losses in soil erosion so that where were once dense forests now are barren and uninhabitable deserts.

[...] Chinese agriculture for centuries has suffered from religious veneration, for the graves of ancestors and large areas underlaid with coal and other minerals have been left untouched because of the surface ground being occupied by graveyards. That reverence for the dead is beginning to give way to the necessities of modern advancement.

Everywhere in China, Mr. Yui relates, compulsory cutting of queues still is going on, and Chinamen every day may be seen going home, tearfully carrying queues in their hands. The reforestation of her deserts and the opening of her coal mines will be enforced by the present administration.765

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China's deforestation, in short, is a result of centuries of negative cultural and moral behaviors directly related to the superstitious beliefs of the Chinese people.

In these three paragraphs, Yui plays the role of the native convert confessing the sins China has committed under the sway of a false faith. He begins by recognizing the disastrous consequences of deforestation (drought and erosion), after which he "correctly" places the blame on Chinese religious traditions. The Chinese landscape – barren and unproductive due to ancestor worship – therefore becomes a symbol of the inferiority of Chinese culture in the face of Western science. Though Yui's confession has proved that he – and, by extension, the Republican government – are indeed true converts to the faith of Western science, the final paragraph of the article makes it clear that most of his countrymen remain unbelievers. The image of the foolish "Chinaman" crying over his lost queue should elicit laughter, not sympathy. Just as the Republican government has forced Chinese bodies to conform to "modern" standards by successfully instituted compulsory queue-cutting, so too will it drag the Chinese landscape into modernity through reforestation and mining programs. It was in this context of Western pedagogy and Chinese desire that Arbor Day first came to China.

The Republic of China first celebrated Arbor Day on April 5, 1916. First celebrated on China's traditional Tomb Sweeping Festival 清明节 and later on Sun Yat-sen Memorial Day, scientific foresters and government officials envisioned it as a chance to promote forestry on a national scale. National, provincial, and local celebrations all served as forums to transform specialized knowledge into common knowledge. Lectures, music, tree-planting demonstrations, and educational pamphlets all aided in this process. At first glance, it appears to be an imitation of the relatively new American tradition of the same name. Both countries designed Arbor Day as a way to promote not only the development of the timber industry, but also the protection of their respective nations' forests. In addition, both celebrations included experts who taught novices how to plant trees in an effort to foster a more intimate relationship with the natural world. The continued existence of the forest in the modern world, in other words, depended on popular support. This, in turn, could only come from a shift in cultural attitudes toward the natural world.

Nevertheless, in most respects Chinese and American Arbor Days proved to be more different than similar. Although both celebrations sought to promote the idea of the forest as fundamentally important to modern nationhood, Chinese and American definitions of the forest differed considerably. For early twentieth-century Americans, the forest was large, remote, and – most importantly – natural. But for Chinese promoters of forestry, the forest – in itself a new concept – was most likely smaller, artificial, and located in spots of importance to the Chinese geomantic (or fengshui) tradition.

These distinctions had roots not only in the domestic historical trends of the nineteenth century, but also in the cultural and economic geopolitics of the twentieth century. For Americans, the forest provided raw materials to support the world's largest timber export economy – an economy that played a key role in the modernizing construction projects of the twentieth century. At the same time, Americans also
conceived of the forest as critical to maintaining cultural ideals of rugged individualism among an increasingly urban population. As Lisa M. Brady expertly describes, the Civil War's physical and mental transformation of the countryside inspired a change in American attitudes toward non-agricultural land. What they once viewed as threatening wasteland became, in the Reconstruction era, a source of physical security and emotional strength.\textsuperscript{766} The forest thus began to play a key role in American conceptions of national territory and national citizenship.

Chinese promoters of forestry, by contrast, conceived of the "forest" as primarily transformative rather than protectionistic. Through Arbor Day, they hoped to promulgate the idea of the forest as both the panacea for the problems of China's immediate past and the hope for a healthy future. The forest simultaneously represented a symbol for an independent national economy, a vibrant agricultural sector, a healthy population, and a modern landscape. As emphasized repeatedly in previous chapters, the idea of the "forest" as a group of trees occupying a space outside of a singular mountain was very much foreign to the Chinese lexicography. Even the Chinese word now glossed with the English "forest" – \textit{senlin} 森林 – did not exist prior to the twentieth century. In addition to their economic function on private tree farms, previous conceptions of the role of trees on public land centered on their place on mountains, particularly those that had religious or geomantic significance. Just as those on tree farms provided for mankind's physical needs, trees on mountainsides provided for the needs of their souls. Qing (1642 - 1911) literati and fengshui masters insisted that tree roots guarded a mountain's geomantic veins, which in turn protected the souls of the dead buried in its soil. As many considered mountains to be ideal graveyards, this created a conceptual (and often physical) spatial dichotomy of the deforested lowlands – the homes of the living – and the forested mountains, where spirits reside.

The introduction of the forest as a spatial concept challenged these traditional notions of space. The forest was not tied to a specific topography, and, as such, it was divorced from the geomantic belief system. Recognizing the strangeness of the forest as a concept, promoters of forestry in China elected to use an American children's holiday – Arbor Day – to transform the basic principles of scientific forestry from specialized to common knowledge. They further hoped that by placing it on the same day as Tomb-Sweeping Festival \textit{清明節} – the Chinese day to honor the ancestral dead – they could draw upon associations between tree-planting and commemoration to inspire popular interest. The holiday's shift in 1929 to coincide with Sun Yat-sen Memorial Day occurred due to similar considerations. Throughout Republican China, officials, local elites, and students all lectured on and sang about the importance of the forest to transforming China into a place where hillsides did not erode, rivers did not flood, the air was clean and the economy self-sufficient. All leaders of Arbor Day ceremonies, from the president of the Republic to the lowly county student, would then personally plant a tree to symbolize their dedication to the task.

In its goal to promote the existence of the new idea of the "forest," Arbor Day was certainly successful. Arbor Day had a high rate of official attendance throughout China, with officials traversing rocky roads and fording rivers to participate. Through parades, speeches, pamphlets, and tree-planting demonstrations, the leaders of local Arbor Day celebrations – more often than not mere minor officials – promoted the idea of the forest as fundamental to both modern statecraft and local health. The act of actively designing a ceremony and creating a speech for which there were no common templates required an active level of participation on the part of local officials. To govern, they would learn, one could no longer be completely ignorant of the needs of local trees or the aesthetics of the landscape. Photographs proffered by local officials (as many as fifty or sixty per ceremony) provided proof to local residents, central officials, and Western critics that they had mastered the lesson and begun to dutifully transform their landscape to conform to modern standards.

Yet, for local residents, Arbor Day was simply a source of confusion. Published documents such as Zhang Ziping's short story "Arbor Day" and archival documents all attest to the public's general lack of understanding as to what a forest should be. Were they creating gardens or memorializing the dead? Were they enjoying the spring air or creating a new China? The lack of a singular message inspired some to embrace the tradition enthusiastically, allowing them to make forestry relevant to matters of local concern. But others celebrated Arbor Day perfunctorily, as a symbol of their begrudging acceptance of central authority. For them, the forest was of central rather than local relevance, an idea too foreign to their experience.

The story of Chinese Arbor Day is thus multilayered, reflecting shifting and muddled Republican conceptions of temporality, spatiality, and national identity. Arbor Day was both old in its associations with remembering the dead, and new in its promise of a transformed China. Arbor Day was also simultaneously both national and local, Chinese and Western. Central officials touted the idea of a national holiday while ignoring differences in local climates and environmental conditions. Arbor Day was Chinese in its association with traditional burial practices and fengshui traditions, but also Western in its association with America and the construction of a Western-style landscape.

The purpose of Arbor Day, in short, was primarily pedagogical. Urban elites and officials served as both students and educators, the link between dreamers of a forested China and the rural farmer. However, as we shall see in the following chapter, these dreamers – foreign observers, central officials, and Chinese foresters – all overestimated the power of Arbor Day propaganda to reshape the Chinese landscape.

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767 张资平著, 《植树节》植树节。上海市：新宇宙书店，1928年，pp. 1–22.
The Origins of Arbor Day:

Tomb-Sweeping Arbor Day, as it was called in the early Republican period, was the product of the ideas and experiences of a single American man: Joseph Bailie. At least, this is how the current literature describes Arbor Day's introduction to China. In his engaging study of American agronomists in China, Randall Stross describes Bailie as a well-intentioned, but bumbling sort of man.\(^768\) Bailie's introduction of the American tradition of Arbor Day to China came about on a whim, after years of failure to set agricultural and forestry programs into motion in the hills of Jiangsu and Anhui provinces.

Joseph Bailie, Stross explains, arrived in Nanjing shortly after the founding of the Republic in 1912 to serve as an instructor at the Christian-managed University of Nanking. The ubiquity of human poverty throughout Nanjing shocked him. Starvation was a harsh reality for many of China's urban residents, as Bailie discovered one morning when he found the body of a man who had starved to death outside of his front door. The horror of this experience motivated him to solve the problem of Chinese poverty. Chinese elites, everyone knew, had proven more interested in scholarly pursuits than the problems of the poor. Because he had spent time on his grandfather's farm as a boy, Bailie felt uniquely qualified to save China's urban poor through agriculture. He managed to acquire a large tract of wasteland on nearby Purple Mountain for poor urban residents to farm. Unfortunately for his project, Bailie underestimated the impact of prolonged deforestation on soil quality. In spite of their best efforts, none of his tenants were able to produce a viable crop.

Not to be deterred by uncooperative soil, Bailie resolved to tame Purple Mountain. If his poor tenants planted trees instead of crops, the soil would eventually regain the nutrients needed for agriculture. China's land and its people would all shed the chains of poverty at the same time. But this project suffered the same fate as its predecessor. This time, it was due to the pervasiveness of pernicious Chinese customs, rather than the poverty of its land. Local residents were accustomed to place a willow branch on an ancestor's grave to celebrate Tomb Sweeping Festival. As there were no willow trees on Purple Mountain, Bailie assumed that his trees would be safe. Unfortunately, few locals seemed to care about this distinction. On the day after Tomb Sweeping Festival, Bailie arrived to find the trees his tenants had so carefully planted hacked to bits.

On the train ride home, Bailie bemoaned the negative effect of graves upon Chinese land. Unlike Western cemeteries, themselves a product of the nineteenth

Chinese graves were scattered across large tracts of empty mountain land—land that could otherwise be used for forestry or agriculture. As he would write in 1915:

The country that attaches more importance to the graves of the dead than it does to the lives of its present inhabitants and will allow the grave of General Wong to occupy ten mou of good land maintained in an unkept condition while the Chen family of seven mouths have a hut on a corner of this same grave and attempt to support themselves by digging roots of trees and the like from this and hundreds of grave surrounding, while they are the most anxious to break up and cultivate some of this very land— the country, I say, that does this is committing suicide.

Even in death, the wealthy and powerful rob the poor of economic opportunities through their monopolization of China’s land. Forced by necessity, the poor destroyed the mountain soil’s productivity by digging up the roots of local plant life. Only forests held the promise of a future in which the land could provide enough for all.

But the image from that train window also reminded Bailie of something else. The sight of hacked bits of branches and trunks lying across the mountainside spoke to the power of "superstition" over that of "reason." Like Z.T. Yui (the Republican official cited at the beginning of this chapter), Bailie recognized that the underlying roots of Chinese deforestation were both structural and cultural. It occurred to Bailie, as he gazed at the Chinese countryside, that the solution to the latter problem might be to import an American cultural tradition: Arbor Day. And by celebrating Arbor Day on the same day as Tomb-Sweeping Festival, the holiday could both promote forestry while also preventing the deforestation brought about by Chinese traditions. Over the course of the following days, weeks, and months, Bailie corresponded with Sun Yat-sen and other prominent Chinese about his proposal to bring Arbor Day to China. The idea was quickly accepted and China’s first Arbor Day was celebrated in selecting locations the following year in 1915.

The origins of Arbor Day in the United States further illuminate the linkage between landscape, knowledge, national identity and resource management inherent behind its introduction to China. According to American popular and government histories, Arbor Day was first established on the plains of Nebraska in 1872 by J. Sterling Morton and other pioneers from the forested states along the Atlantic coast. Missing the aesthetic and agricultural benefits trees brought in their native states, these pioneers hoped to spark communal interest in planting trees in Nebraska’s comparatively barren land. Throughout the 1870s and 1880s the holiday steadily gained popularity throughout the country, with many states choosing a day within its best tree-planting season to celebrate. In 1882, Arbor Day began to be promoted in schools. By the early twentieth century children, as opposed to farmers, the lumber industry or educated urbanites, had become the holiday’s target audience. In other words, when Bailie proposed to introduce Arbor Day to China thirty-two years later in 1914, he was equating Chinese citizens with American children.

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Moreover, he was promoting the idea of the ideal landscape as one that resembles that of the American eastern seaboard: lush and forested. It, like the railroad and Western medicine, was something so undoubtedly superior that it must be exported.

For many early twentieth-century Americans, an appreciation for and connection to the forest played a vital role in establishing one's national identity. For example, in 1907 President Theodore Roosevelt issued a proclamation to American children on the role of Arbor Day in shaping the American citizen. In this address, Roosevelt looks decidedly toward the future, as opposed to the present, warning the children of an impending resource crisis. He further enlists their aid to act as "good citizens" and restore the country's forests so that trees might continue to provide "adornment, comfort and useful products" to the nation.

[Arbor Day] is now observed in every State in our Union -- and mainly in the schools. At various times . . . you give a day . . . in recognition of the importance of trees to us as a nation, and of what they yield in adornment, comfort, and useful products . . . It is well that you should celebrate your Arbor Day thoughtfully, for within your lifetime the Nation's need of trees will become serious. We of an older generation can get along with what we have, though with growing hardship; but in your manhood and womanhood you will want what nature so bountifully supplied and man so thoughtlessly destroyed; and because of that want you will reproach us, not for what we have used, but for what we have wasted . . . A people without children would face a hopeless future; a country without trees is almost as hopeless . . . When you help to preserve our forests or plant new ones you are acting the part of good citizens. The value of forestry deserves to be taught in the schools, which aim to make good citizens of you.\

For Roosevelt, the primary purpose of Arbor Day was thus to instill in the nation's youth a proper relationship with the natural world, one that would suit a modern world filled with modern citizens. This meant that children must believe that they are the stewards of nature. Nature, in this view, is incapable of meeting modern demand and, as a result, cannot survive without human protection. Forestry, as Roosevelt emphasizes, is a value that must be transmitted in order to protect America's future.

The continued emphasis on proper relationships with the natural world illuminates a concern that younger generations might no longer feel personally connected to America's forests. Advocates of Arbor Day strove to impart this personal relationship through the act of planting and tending to trees. One such advocate suggested that teachers name the trees after famous figures in American history, such as George Washington. This would encourage the children to see the trees as living creatures in need of human love and care, rather than inanimate objects to serve the needs of mankind.

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The interest of children in pet animals . . . springs largely from their life and their
dependence upon human care. When the young tree is regarded as living and
equally dependent upon intelligent attention . . . it will also become a pet, and a
human relationship will be established.\textsuperscript{772}

Other advocates, particularly those of the early twentieth century, opted for an approach
based on moral exhortations rather than turning trees into pets. Kevin C. Armitage's study
of Bird Day -- a holiday based on Arbor Day that also targeted American schoolchildren -
proves informative in this regard. Armitage argues that in the early twentieth century
both Arbor Day and Bird Day blossomed under the aegis of progressive conservationism.
This type of conservation ideology argued that an understanding of scientific facts related
to environmental destruction did not necessarily lead students to become
conservationists. As a result, progressive conservationists encouraged schoolteachers to
describe environmental protectionism in black-and-white terms; moral ambiguity had no
place in one's attitude toward the environment.\textsuperscript{773}

In short, when Bailie proposed the introduction of Arbor Day to China, he was
arguing for the use of a tradition that had a specific American historical and cultural
context. The use of an American children's holiday to educate the Chinese populace
suggests that he viewed their approach toward the environment as childlike. Like the
American promoters of Arbor Day, Bailie hoped to promote a "correct" relationship with
nature rooted in the principles of Western science and progressive conservationism.
There was no room, in this viewpoint, for Chinese approaches toward space that were
based on "superstitious" beliefs or even modern East Asian approaches originating from
Japan. The American way would reign supreme.

Nanjing's first Arbor Day ritual, Stross notes, took place on April 5th, 1915 under
the guise of "Sino-American Friendship Day."\textsuperscript{774} Nanjing's proximity to the city of
Shanghai combined with the passion of the city’s foreign missionaries for using agriculture
as a tool for proselytization made it an ideal location from the perspective of the
Americans. At the same time, Nanjing's longstanding associations with Chinese power
structures and significant history of ecological crises allowed it to appeal to the Chinese
side as well. Bailie's success in this endeavor encouraged him to found the Department
of Agriculture and Forestry at the University of Nanking. The department used American
textbooks and hired American forestry specialists to serve as instructors. Though it got
off to a rocky start, by the 1920's it had become known as the premiere institution for
forestry in China.\textsuperscript{775} This further solidified the notion that Chinese should emulate
American approaches toward forest management and the promotion of reforestation.

History, Observance, Spirit and Significance}. New York: Dodd, Mead and Company, 1939, p. 7
(emphasis mine).
\textsuperscript{773} Kevin C. Armitage, "Bird Day for Kids: Progressive Conservation in Theory and in Practice,"
\textit{Environmental History} 12 (July 2007): 528 - 51.
\textsuperscript{774} Stross, p. 83.
\textsuperscript{775} Ibid, pp. 84 - 90.
Chinese sources tell a different story of the origins of Arbor Day. Although Chinese archival sources suggest that Joseph Bailie’s Nanjing reforestation project served as a model for the potential of reforestation to benefit the economy, they do not provide evidence for his involvement in the introduction of Arbor Day to China. Rather, they suggest that the proposal to create Arbor Day originated in the Ministry of Agriculture and Commerce (农商部). More importantly, Chinese sources also point to discussions on the introduction of a national holiday to promote forestry that predate even the founding of the Republic. Arbor Day was thus not predestined by virtue of Western dominance to become a part of Chinese reforestation programs. Rather, the importation of Arbor Day represented a choice that had roots in the spatial, economic and cultural histories of the late Qing and early Republican periods.

The ideas that emerged from the newly established Fengtian Forest School奉天森林学堂 serve as one example of pre-Republican interest in promoting popular faith in the importance of reforestation. But while concerns over burial practices and Western imaginings of Chinese space inspired the development of Arbor Day in the south of China, the Northeast’s desire for Arbor Day emerged out of altogether different concerns. The Fengtian Forest School was the first of its kind in Manchuria. In 1906, the Shengjing General established the school in order to train Chinese foresters to protect Chinese interests in the Sino-Japanese jointly owned Yalujiang Timber Company鴨綠江材木公司. As such, the Fengtian provincial government had a vested interest in ensuring that the school maintained a distinct Japanese influence. A Japanese forester named Imagawa Tadashi 今川唯市 served as its principal alongside several Chinese instructors.777

In October 1911, one of the school’s Chinese instructors wrote a detailed proposal to the Governor-General of Manchuria on the revision of Manchuria’s forest administration policies.778 In this proposal, Cui Huchen 崔湖陳 describes the rampant deforestation that has taken place over the past decade. Population increases, warfare, and foreign logging had all brought about environmental conditions that lacked regularity无常. In Cui’s view, heavenly calamities 天灾 such as flooding and drought plagued the Manchurian countryside due an improper relationship with the forest. He writes:779

In years past there were no droughts; the people who lived in this region were extremely dependent on this for peace. After the year of gengzi (1900), Japanese and Russian [troops] invaded, the population suddenly increased, [and] transportation systems gradually developed. The use, import and export of timber products [all] increased daily. In [this] age when axes ding, [we] hear of deep and

776 This province no longer exists under the current administrative system of the PRC. Its boundaries roughly correspond to those of today’s Liaoning Province.
777 Jilin Provincial Archives, 33-1-231.
778 Jilin Provincial Archives, 1-37-4292.
779 Ibid.
secluded valleys that in in the past were a verdant green, but today are bare and naked.780

Cui continues by citing specific cases of recent drought and flooding in Manchuria, attributing the cause of both types of disasters to excessive felling 濫伐. Human greed, rather than bodies of the dead, had robbed the Northeast of its forests. The destruction of forest resources had led to the destruction of human lives and property. Only by mending the relationship with forest through reforestation and increased government regulation could future disasters be averted.

This idea of the root cause of natural disasters as emanating from a human relationship with the earth stands in stark contrast to popular beliefs of the late nineteenth century. For example, Kathryn Edgerton-Tarpley's study of the great famine of 1876 - 1879 shows that local elites believed the cause of the disaster to be rooted in immoral interpersonal behavior. Greed, lack of filial piety, and other immoral actions against one's community brought about the wrath of Heaven, not one's actions against the physical environment.781 Paul Cohen's history of the Boxer Rebellion (1898 - 1901) produced similar findings, arguing that local residents viewed flooding to be a consequence of foreign presence and immoral interpersonal behavior.782 Thus, in spite of evidence that some officials in the eighteenth and nineteenth centuries considered erosion to be the cause of certain natural disasters,783 the consequences of deforestation largely belonged to the realm of specialized knowledge.

Cui Huchen believed that this lack of popular awareness was part of the reason for Manchuria's current ecological crisis. A national "Planting Day 栽植日" would serve as an important step in protecting and reconstructing Manchurian forestland. Like his American contemporaries, Cui envisioned schoolchildren as playing a fundamental role in this holiday. Every school was now to have a campus wherein to plant a "school forest 学校林." These campus trees would not only cultivate a love of nature, but also a good work ethic, both of which were essential to modern Chinese society. He writes:784

School forests are a type of public forest. The general education [systems] in many countries all emphasize [this type of] education, because they want to cultivate a type of thought in the young whereby they rejoice in Heaven. They also make [the children] become accustomed to nature in order to cultivate a spirit of amazement

780 历年以来，尚无水旱之灾。居民尤赖以安。庚子後日俄侵入，人口遽增，交通機關已漸發達，木材之需用輸出，日以增加，斧斤丁丁時，聞幽谷昔時之蔥鬱者，今則禿裸衣。
784 Jilin Provincial Archives, 1-37-4292 (emphasis mine)
in their breasts. They forge [the children's] bodies as well as work their bones and muscles in order to cultivate a competitive mindset. When [the children] leave the school and enter into society, they will certainly not become roaming parasites, but rather become stable members of society. As such, school education will have this [type of program] as its base ... Planting Day will be established as a ritual on a day of rest to be selected by the Dynasty. Every wealthy, poor, important, and ordinary person will plant one tree. The scholars will have the added task of using poetry and song to praise [the ceremony]. In America, this custom is prevalent. From the president to urban citizens there are none who do not plant a tree for this grand ceremony. This tradition necessarily leads to the ability to cultivate a love of the forest and industrious habits. These are exactly what our country urgently needs to emulate.

Planting Day for Cui thus served as a tool to extend the ideological reach of the school forest from the campus to the city.

Like the school forest, the purpose of Planting Day was primarily pedagogical. But rather than creating the "stabilizing social elements 社会健全之分子" of the future, it sought to cultivate an appreciation of nature and industrious habits in the society of the present. The scholar, through his composition of poetry and song, plays a critical role in this process. He serves as a symbolic link between the school and the society. As the allusion to his imagination of American Arbor Day makes clear, Cui Huchen envisions this ceremony as primarily public and civic. In order to ensure visible change in the Northeast's landscape, the public's thoughts and actions must change.

Most of Cui Huchen's proposal focuses on creating administrative systems to solve ecological problems unique to Manchuria. But in his section on Planting Day, Cui imagines Manchuria as simultaneously tied to both the country 国 and the world. The central government determines a single date for the entire country to hold this grand ceremony 盛典, a term that even on its own implies a connection with something larger than the locality. The temporal simultaneity of the ceremony throughout the country allows the participant to imagine himself as part of a national community. At the same time, the suggestion that other countries celebrate similar ceremonies at a similar time of year fostered a sense of global unity. In other words, Planting Day was designed – whether intentionally or not – to transform the individual's conception of the forest from a local to a national and even a global phenomenon. As forestry historians such as Nancy Peluso

785 學校林者，公有林之一種也。各國普通教育均注重教育，蓋欲以養成幼年樂天思想，且使之習於自然，以養其胸中浩然之氣，鍛其身體，勞其筋骨，以養其奮鬥之精神。其出學校而入社會也，必不為國家遊食之民，而為社會健全之分子。蓋於學校教育有以基之矣。。。栽樹日於國中擇定一休暇日，立為令典，貴賤大小，每人植樹一棵，文士更作為詩歌以頌揚之，美國盛行此風，自大統領以及市民無不手植一株，以應盛典風習所趨，必能養成愛林思想勞働習慣，是則我國急宜仿行者也。

786 See Chapters 1 and 2.

787 For an example of this type of trend with regard to the non-Western world, see: Rebecca E. Karl, *Staging the World: Chinese Nationalism at the Turn of the Twentieth Century*. Durham: Duke University Press, 2002.

Unfortunately for Cui Huchen, his proposal to reinvigorate Manchuria's forests came at the wrong time. The Jilin Provincial Governor replied that it would consider implementing selected parts of his forest protection proposal (including school forests and Planting Day),\footnote{Jilin Provincial Archives, 1-37-4292} but its deliberations came to a halt due to the regime shift in the beginning of 1912. Southern Chinese concerns for China's deforested landscape made for a different relationship with Arbor Day. As mentioned in the beginning of this article, the barrenness of the hills in the southern coastal region remained a subject of international criticism. For those Chinese who, like Z.T. Yui, went to the West to learn about scientific forestry, this criticism left a powerful impression. In 1918, the American-trained forester Ling Daoyang 凌道扬 described the humiliation he felt upon witnessing Western foresters use pictures of the Chinese landscape to describe the devastating effects of deforestation. "Every time foreigners refer to the damage of China's barren mountains it becomes a warning to the people of that country. This [means] that on the inside [they] receive a careful warning against this loss, but on the outside laughter and denigration remains 外人每引中国山岭荒废之害为彼国人之戒是内受慎失而外贻笑侮也."\footnote{凌道扬。森林要览。上海: 商务印书馆, 1918, p. 1.} Much like the famous author Lu Xun would later describe in the preface to his first collection of short stories \textit{Call to Arms} 呼喊,\footnote{Lu Xun, "Preface to the First Collection of Short Stories, 'Call to Arms,'" in \textit{Selected Stories}. Yang Hsien-yi and Gladys Yang, trans. New York: W. W Norton and Co., 2003, pp. 1 - 6.} Ling Daoyang describes this as an edifying experience. It motivated him to return to China and create one of the earliest Chinese-language textbooks on modern scientific forestry, for which these remarks served as a preface.\footnote{Ling Daoyang, p. 2.}

Yet foreign laughter was only one of the reasons behind the Southern desire to shape hearts and minds in favor of the forest through the introduction of Arbor Day. In July 1915, The Ministry of Agriculture and Commerce petitioned President Yuan Shikai to establish Arbor Day as a national holiday in China. Their petition largely ignores the issues of foreign encroachment and foreign criticism, focusing exclusively on the social benefits of promoting reforestation. They write:\footnote{Jilin Provincial Archives, 101-4-413.}

In a time when axes should be used in moderation, holding a ceremony that emphasizes mountain forests is truly the method [that will have] the broadest effect. For example, strengthening dykes, eliminating drought, [and] eliminating
Disasters are all especially obvious examples of the benefits of forests as they relate most to the people's livelihood.\textsuperscript{794}

The Ministry thus emphasized the importance of establishing a ceremony in promoting national awareness. This ceremony, as it later explained, would provide participants with an impression of the critical importance of forestry to their personal and economic security. Similar holidays had been established in Europe and America, and all had resulted in great success.\textsuperscript{795} So long as China followed in their footsteps, it too could both regain and protect its forestland.

These impressions, feelings, and ideas about forests were thus, in the Ministry's view, critical to ensuring the success of national forestry programs. In this respect, Chinese Arbor Day proved to be no different than both Planting Day and American Arbor Day. However, in addition to asking participants to express an emotional attachment to the forest, both Planting Day and Chinese Arbor Day also hoped to inspire a sense of temporal and spatial simultaneity not found in American Arbor Day celebrations. The fact that the entire nation was to plant trees on a single day encouraged the individual to conceive of himself\textsuperscript{796} as part of a larger, national community.

As we shall see below, this sense of spatial and temporal identity would cause significant problems in Arbor Day's implementation, undermining the very unity the ceremony sought to create. Weather patterns and tree species differed dramatically from North to South and East to West. No single date could serve as an ideal planting time for every province. Arbor Day was thus held on a date most suitable to the conditions in the capital, first in Beijing and later in Nanjing. This decision resulted in the death of many of the Arbor Day trees outside of these regions that had been planted in the name of the Chinese nation. Central officials denied petitions from localities who sought to plant on a date more in line with local conditions, reiterating that all celebrations throughout the nation must be held on the same date.

At the same time, Arbor Day's connection to the landscapes of Europe, North America, and Japan inspired the individual to imagine Chinese land as connected to the larger world. Students at Beijing's Tsinghua University in 1917 reported learning of Arbor Day's American origins during the pre-ceremony lecture, and were even able to point to Roosevelt's conservation efforts as crucial in preserving America's forests.\textsuperscript{797} Furthermore, promoters of Chinese Arbor Day such as Cui Huchen and, as we shall see below, Ling Daoyang emphasize cultivating "a love of the forest" as something that the United States does effectively, and is also "what our country urgently needs to emulate."\textsuperscript{798} At the same time, Arbor Day would be held on Tomb Sweeping Festival, and

\textsuperscript{794} 方斧斤以時，戴禮重山林之典，誠以林政一端。為用最廣，舉凡固堤防消水旱除災癘，皆為森林之利益，而於人民生計關係甚鉅，尤其顯然者也。

\textsuperscript{795} Ibid.

\textsuperscript{796} Arbor Day participants were almost exclusively male. However, in some places female schoolchildren did also participate.

\textsuperscript{797} 《植树节记》清华周刊, 第 105 期（1917 年）, 第 6 到 7 页。

\textsuperscript{798} Jilin Provincial Archives 1-37-4292
which in turn emphasized the importance of maintaining a connection to the Chinese past. As we shall soon see, the themes of "memory" and "unity" both would play a critical role in Chinese Arbor Day celebrations. Though China's landscape may soon join the forested landscapes of the "world," its Chinese roots could not be called into question.

This focus on Arbor Day as a ritual that promotes a uniquely Chinese spatial identity becomes more apparent when compared with other descriptions of the importance of reforestation. In June 1915, one month before the Ministry of Agriculture and Commerce proposed the creation of Arbor Day, President Yuan Shikai ordered the Ministry to create a proposal for widespread, government-led reforestation projects. He justified reforestation by primarily pointing to issues of foreign opinion and foreign timber imports. In his account, the issues of popular livelihood and natural disasters become secondary to these issues:799

[Whenever] foreigners discuss deforested countries, they all refer to China as an example. Out of all of our products the majority are foreign imports, which has led to the outward flow of our financial power. Fertile soil has become barren. At times I worry that our vast land and its many people are in dire straits.800

President Yuan continues by pointing to the work of Joseph Bailie in promoting reforestation in Nanjing. He described Bailie's program as successful,801 in spite of the fact that the project never actually saw much success.802 In the end, this distinction mattered little. The project represented more of a symbolic step toward a particular kind of forested future. The idea of an independent, forested China on par with the outside world inspired Yuan's interest in forestry. A modern nation in a modern, interconnected world could not afford to be deforested, just as it could not afford to leave its mines unopened, or use outdated military technology. As such, the Chinese forests of the future would be part of a global phenomenon.

This, however, was not the portrayal of forests that appeared in most Arbor Day celebrations of the Beiyang period (1916 - 1927). Although the involvement of international figures such as Joseph Bailie, the Euro-American public sphere, and Japanese loggers all inspired the introduction of Arbor Day to China, its characteristics would be uniquely Chinese. Throughout both the Beiyang and Republican periods, Arbor Day celebrations would reflect both national and local attitudes toward space, time and the community. These would all reflect and shape the growth of a Chinese understanding of the "forest" as a spatial and lexicographic entity, one that was decidedly different from the traditional woods.

800外國人論森林缺乏之國，每引中國為例。所有產料多由外輸，遂致利權坐溢。沃壤就荒廣土，眾民時虞艱困。
801 Ibid.
802 Stross, p. 84.
Arbor Day in the Beiyang Period (1916 - 1927):

Even in its early years, very few knew quite what to make of Arbor Day. It was a ritual in the spirit of Qing imperial ceremonies, but at the same time also a modern ceremony designed to include a limited amount of popular participation. Arbor Day was held on the same day as Tomb Sweeping Festival, when Chinese families traditionally tended to their ancestral tombs, but it was also supposed to be something quite different. It was a Western import, but also a Chinese tradition. Formulating the ceremony itself thus posed no easy task for a local official, particularly those whose jurisdictions lay outside of the geographic centers of Western education. On a more practical level, Arbor Day required that officials teach local gentry, students, and even farmers how to plant trees. However, even if an official had experience planting trees in a private garden, he certainly had little or no knowledge of the challenges of reforesting a hillside. How, then, could he teach his people something he had no personal experience in?

The Ministry of Agriculture and Commerce did very little to alleviate the general confusion. Not only did they provide instructions so general as to lose practical local purpose, but they also began their planning so late as to ensure that few localities would receive these instructions in time for the ceremony. On March 20, 1916, the Ministry began preparations for the nation’s first Arbor Day on April 5th – the day of Tomb Sweeping Festival according to the old lunar calendar. In an order to the Jilin Provincial Governor, the Ministry explained that its own Arbor Day ritual would take place on Majin Peak 馬金頂 in Beijing’s Outer Western Hills 后西山. There, officials would take part in the ritual by planting trees, which served as both a sign of respect for the "grand ceremony" as well as a way to promote forestry. Provincial governments like that of Jilin Province should not only hold similar celebrations of their own, but order local county and municipal governments to conduct Arbor Day rituals as well. In addition to government officials, members of local schools and local gentry should also participate in the ceremony. Should local governments need further guidance, the Ministry had printed a total of 150 copies 册 of this pamphlet that contain more detailed instructions.

Out of the 150 printed, only two copies of A Brief Description of Tomb Sweeping Arbor Day 清明植樹節說略 made it to Jilin Province. The provincial governor was then tasked with using provincial funds to make copies and distribute them to the various government organs throughout the province. The necessity of using provincial funds, combined with the fact that the Ministry of Agriculture and Commerce sent out the original copies a mere sixteen days before the ceremony was to take place, meant that few county magistrates could possibly have implemented the proposed plans in time for the April 5th ceremony. As we shall see below, A Brief Description proposed a high level of cooperation with local elites in both the planning and implementation processes. For

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804 Jilin Provincial Archives, 101-5-605.
805 Jilin Provincial Archives, 109-5-482.
those who may have received their copies days before April 5th, this would certainly not have been possible.

For the county magistrates who did manage to receive the pamphlet in time, a quick glance through might have lead them to sigh with relief. At nineteen pages, *A Brief Description of Tomb Sweeping Arbor Day* certainly appeared to contain enough detail to support a standardized local ceremony. One of the two authors -- Han An 韓安 -- had recently received a Master's in Forestry from the prestigious University of Michigan, after which he served as the head of Manchuria's Ministry of Forest Affairs. As such, local officials could trust that the pamphlet combined the best of Western forestry theory with Chinese practical experience. Core sections addressed the question of how to design ceremonies in urban, rural and campus environments, as well as tree-planting instructions and tips on protecting public trees from natural and human elements.806

However, the descriptions within these sections offer little aid to officials who lacked the knowledge or will to actively pursue reforestation. The section outlining the procedure for both urban and rural environments, for instance, simply asks local officials to form committees of prominent locals to manage various elements of the Arbor Day ceremony. These committees include selecting the Arbor Day site, selecting tree types, planting, protection, collecting funds, and facilitating local attendance. The instructions for each committee only provide general and simplistic instructions. The protection committee, for example, "should plan and implement several methods to protect trees that have already been planted from disasters [that include] illegal felling, wildfire, and from being eaten or trampled on by livestock 應籌設各種方法保護已植之樹使不受盜伐野火牲畜噬噬及踐踏諸災害."807 The committee tasked with facilitating attendance received similarly vague orders. The committee "must, in advance [of the ceremony], invite important personages to give speeches on topics that relate to planting trees. For example, the meaning of Arbor Day, the benefits of planting trees, etc. would all be acceptable topics 須預請重要人物到場演說與植樹有關諸事項如植樹節之意義植樹之利益等演題皆可."808 Upon the completion of the ceremony, the committee was further tasked with compiling a report that would be forwarded all the way up to the Ministry of Agriculture and Commerce itself.

Should local officials or Arbor Day committee members continue to skim through *A Brief Description*, they would find a sample outline for a campus ritual. Like the committee guidelines, this outline was similarly vague. First, the school's principal or a local official should lead the group in singing several songs, after which model students should give lectures or read poetry on the benefits of trees. More singing should then ensue, followed by a lecture. The ceremony would culminate in a procession to the

807 Ibid, pp. 6 - 7.
planting site, whereupon each participant would plant at least one tree in the plot assigned to his or her class. The progress of these plots would be monitored and compared with those of other classes in order to "inspire a competitive spirit." This contest, along with placards placed on each tree to note the name and title of the planter, attempted to cultivate longstanding connections to these trees on both a communal and personal level.

Both this and the following section on memorial trees further explain the Ministry's intent in this regard. The campus ritual section simply emphasizes the general cultivation of "cherishing" the natural world and accord with the spirit of "public welfare." In other words, the language of this section closely resembles Cui Huchen's justification for Planting Day described above. In the memorial tree section, A Brief Description takes this notion one step further. By propagating the notion that major events in the life cycle, such as birth, marriage and death, should all be commemorated by planting trees, the Ministry advocates a direct confrontation with cultural practices that could potentially endanger forestry projects. As Joseph Bailie discovered in the hills of Nanjing, the practice of placing branches on graves for Tomb Sweeping Festival could destroy an entire crop of trees. Instead, the section asks readers to use Arbor Day to imagine life a hundred years into the future:

[We] have respectfully outlined each of the aspects regarding how one should plant memorial trees below. If the senior officials in each area select trees that can be logged for use in [the ceremony], then there would not merely be barren mountains. The [mountain's] trees would suffer the axe, and you would see [them] reach the Heavens with no change over ten thousand valleys. Trees and humans would continue for a hundred years.

Thus, the Ministry hoped that Arbor Day would transform Chinese land as well as Chinese minds. Z.T. Yui's promise to the American people that China would attack both superstition and deforestation should indeed be carried out in earnest.

Simply put, the authors of A Brief Description of Tomb Sweeping Arbor Day made the significant assumption that the leaders of local ceremonies had the wherewithal to both regulate local custom and cultivate local ethics. Not only should local officials encourage local residents to appreciate trees, but they should also transform "negative" local customs such as burning spirit money into positive customs such as planting memorial trees. As Rebecca Nedostup's study of Republican anti-superstition campaigns notes, this type of direct interference in local spiritual customs was largely outside the

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809 The text makes sure to note that a procession is necessary even if the Arbor Day ritual begins on the planting site.
810 Gu Chao and Han An, p. 11.
814 謹將應植紀念樹諸事項條舉於左。倘各地長官擇其可採者而行之，非獨牛山之木不遭斧斤，將見參天萬壑無異，樹人於百年也
parameters of Qing magistrates. Yet that is not to say that such matters were immune to elite influence. Evelyn Rawski notes that historical evidence indicates that customs surrounding death rituals did spread from elite to illiterate households beginning in the Song Dynasty. However, she also emphasizes that this process was passive and not immediate. The desire for officials to actively transform the cultural practices of local residents was thus largely a twentieth-century phenomenon.

In her study of Jiangsu Province, Nedostup argues that the origins of state opposition to local "superstitious" practices can be traced by and large to specifically Nationalist desires to undermine local power structures that competed with the state for resources. The GMD sought to create what Nedostup calls an "affective regime," one that could influence individual behavior through conformity to nationally shared beliefs and rituals. These, she purports, were "centered on revised senses of the calendar, community ritual, death ritual and burial, and the commemoration of national heroes." With the exception of this final aspect, Arbor Day called upon citizens of the Beiyang period to do exactly that. Cui Huchen, Joseph Bailie, the Ministry of Agriculture and Commerce, and Han An all expressed interest in using a modern ritual Arbor Day to shape popular behavior that destroyed China's natural resources. The secular and national nature of this ceremony would reorient the people to the nation through a shift in the traditional calendar. As Arbor Day's proponents believed that death rituals had the greatest impact on China's forest coverage, reorienting the malign effects of Tomb Sweeping Festival was of paramount importance. The concept of "memorial trees" promoted by Han An in A Brief Description had the potential to refocus peasant energy from destructive behaviors such as lighting spirit money and cutting willow branches toward the positive behavior of planting trees for the nation. As the spirit of Arbor Day conformed so well to the GMD's goals, it is little wonder that they integrated it into the Nationalist ideological framework.

In spite of the great importance given to changing local customs surrounding death, local officials seldom referred to this aspect of the celebration in their reports on Arbor Day celebrations. When they did, they simply mimicked phrases found in the current year's Arbor Day orders, merely stating that the planting of trees "serves to advocate 資提倡 [reforestation]" or "serves to [create an] impression 資觀感." The inclusion of such language in the pamphlet issued by the Ministry of Agriculture and Commerce reflects the influence of extra-bureaucratic forestry specialists on the creation of the A Brief Description pamphlet. The presence of the Ministry of Agriculture and Commerce's original petition as well as President Yuan Shikai's proclamation reveal the pamphlet's target audience as primarily composed of local officials. Nevertheless, as at least one of the two authors was an independent and American-trained forester, A Brief

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817 Nedostup, p. 11.
818 Ibid., p. 23.
819 Jilin Provincial Archives, 111-2-1023.
Description of Tomb Sweeping Arbor Day also contains language not commonly found in bureaucratic documents. It writes of teaching students and locals to "cherish 愛惜" the natural world and be cognizant of "public welfare 公益." This was certainly a product of Han An's participation in the creation of the pamphlet. Han completed his Master's in Forestry at the University of Michigan in 1907. At this time, as mentioned above, American faith in the use of moral suasion to effect change in the physical landscape was strong. However, as the degree to which a population "cherishes" its forests was not quite as easily quantifiable as the number of trees planted, disinterested local officials had little incentive to actively pursue this particular project.

All this is to say that the national parameters Arbor Day celebrations allowed for a high degree of local flexibility. Everything from the lectures given to the people in attendance were all permitted to vary based on local conditions. The Ministry of Agriculture and Commerce did not even provide strict guidelines for the numbers and types of locations for trees. As we have seen from a detailed reading of A Brief Description, the Ministry certainly hoped that local schools and governments might feel called to create a large-scale and inspiring Arbor Day celebration. However, aside from issuing this pamphlet and generalized exhortations, it did little else to enforce the cultivation of local enthusiasm. How was an official to convey to the local populace the meaning of Arbor Day with only a general understanding of what a forest was meant to be? As such, reports on Arbor Day celebrations from Jilin province in the 1910's and 1920's included ceremonies that ran the gamut of sizes and scopes. Some included only select local officials planting several trees outside the magistrate's office, while others provided over three thousand saplings for the entire community to plant on a local hillside. So long as the official followed the most basic of guidelines (leading his subordinates in planting several trees, taking a photograph, and submitting a report) the Ministry did not interfere.

This meant that at its worst Arbor Day could be little more than an excuse for prominent locals to socialize in the great outdoors – a "superficial 虛浮" and "perfunctory (敷衍)" ceremony, its Nationalist critics would later declare. But at its best Arbor Day represented a chance for local officials to make significant strides in reforestation through the creation of green parks and campuses, as well as the stabilization of local hillsides and riverbeds. In 1917, Zhou Jingxi 周敬熙 – then the magistrate of Dongning County 東寧縣知事 – took it upon himself to use Arbor Day to combat the malign effects of local construction projects on the county's landscape. His motivation to complete the project was so strong that he made the risky decision to disobey the Ministry of Agriculture and Commerce's orders and divide the ceremony into two parts. The county first held a small ceremony on April 5th -- the day of Tomb Sweeping Festival -- during which the magistrate lectured students, teachers, gentry, police officers, and members of the local agricultural

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821 陳郁《植樹式與植樹節》植樹特刊：總理逝世紀念日刊行，易培基題。南京：農礦部林政司印行，1929年，第2頁。Discovered in the Guomindang Party Archives, Taipei.
association on the benefits of forestry. The magistrate further emphasized that "various countries from East to West all advocate forestry and protecting forests." Dongning should thus join in this global trend.

Upon the completion of his speech, the magistrate reported that "there were none who did not rejoice [in its message]." One month later, after the first rain had softened the frozen soil, the local agricultural association supervised the planting of one hundred and sixty-five trees on official land. Though this part of the ceremony should have also taken place during Tomb Sweeping Festival as per the Ministry of Agriculture and Commerce’s orders, Magistrate Zhou Jingxi prioritized the survival rate of local trees over the Ministry’s wishes. The Ministry had not designed the Arbor Day ceremony with the climate of the Northeast in mind. Nevertheless, that did not mean Arbor Days’ goals could not correspond with the needs of Dongning County. In his Arbor Day report, Zhou explained:

The Dongning area is remote. The environment is entirely mountainous and it is an area where natural woods grow. Although there are no large forests, there are nevertheless no small number [of trees] that grow. Of the buildings built and firewood burned by merchants over the past several decades, there were no [instances] in which the wood was not collected locally. However, the people's knowledge is not developed. They do not even know the benefits of reforestation, never mind ways to plant [seeds] and replace [what they have taken]. Every day they log; their axes have no moderation. This has resulted in no remaining trees on nearby mountains. In the areas surrounding the roads, such as Wanlu Valley and the Laoye Mountains, there are none that are not utterly bald and barren. This is [the reason] we must urgently plant trees and foster [the growth of] woods.

Zhou Jingxi thus primarily blames the lack of popular understanding of forestry for Dongning County’s growing ecological crisis ("the people's knowledge is not developed . . ."). Arbor Day represented an ideal forum from which to transform the landscape through education. Upon receipt of this knowledge, the people “danced from pure elation” and served as enthusiastic participants in the agricultural association’s efforts to reforest public land the following month.

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822 Jilin Provincial Archives, 101-6-1378.
823 Ibid.
824 Ibid.
825 東寧地處邊陲，環境皆山，本屬天然產林之區。雖無絕大森林，而所產正復不少。數十年來，商民之建築房屋燃燒薪炭何莫非就地取材，無如人民智識不開，既不知造林之益，又不知補種之方。旦旦而伐，斧斤無節，以致近山之樹均已無存，沿途所經，如萬鹿溝老爺嶺等處，無不童山濯濯。是則植樹培林不可不亟為提倡者也。
826 Jilin Provincial Archives, 101-6-1378.
The following year’s ceremony in Acheng County 阿城縣 was led by a magistrate who likewise exhibited a strong faith in Arbor Day as a tool to enact physical change in the landscape through the education of the local populace. Like the magistrate from Dongning County, Magistrate Han Yanhuan 韓廷煥 defied the Ministry's orders and held two ceremonies: one on the date the Ministry of Agriculture and Commerce had set for Arbor Day, and a second, larger ceremony after heavy rains had softened the frozen soil. On the day of Tomb Sweeping Festival, the county invited local merchants, gentry, police officers, students and educators to each plant a tree in front of Acheng County’s Office for Promoting Education (勸學所). A few weeks later, they planted an additional forty poplar trees 楊樹 and twenty willow trees 柳樹. As further evidence of his dedication to the cause, Han Yanhuan took an unusual interest in protecting these Arbor Day trees. He ordered that a wooden fence be constructed to protect the grove and that local police should also regularly patrol the area to protect the trees from harm.

From the presence of the fence alone the reader gains the sense that Arbor Day did not inspire the people of Acheng to "dance from pure elation 歡欣鼓舞" as it had in Dongning County. This, combined with the need for police presence to guard a small grove, all suggests that locals considered creating "forests" of protected trees to be contrary to their own interests. Han Yanhuan's report of the ceremony itself further supports this notion, for it portrays the area's populace as generally disinterested in the principles of modern forestry promoted by Arbor Day. Han writes:  

As the general population considered this grand ceremony insufficiently important, after the planting had come to an end [I] supplemented [the ceremony] with a speech [that would] guide [the population to understand its meaning]. At this time, I further ordered the Heads of the Offices of the Promotion of Education and the Police to work together to promote and implement all the solutions [outlined in my speech].

Facing a climate of general apathy, Han Yanhuan looked to the Ministry of Agriculture and Commerce's  *A Brief Description of Tomb Sweeping Arbor Day* for inspiration. Not only did he promote the concept of "memorial trees" advocated by the authors of this pamphlet, but Han even incorporated the exact phrasing found in  *A Brief Description* into his report. He writes:

Every time I meet with the principals of each of the schools or local gentry and people, as well as [attend] weddings, funerals or the birth of a child, there is not one occasion in which I do not fervently urge the planting of trees to transmit these

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827 Located on the outskirts of Harbin in today's Heilongjiang Province. At this time, this area was still a part of Jilin Province.
828 Jilin Provincial Archives, 101-6-1378.
829 Ibid.
830 因普通人民對茲盛舉每視為不足重輕，故於畢植時，詳加講導，並當場論令勸學警察兩所長合理倡行一切辦法。
831 Jilin Provincial Archives, 101-6-1378.
memories [to future generations] so that [talk of] trees [might be as pervasive as]
the sound of the wind. [With regard to] all the groupings of quality trees that have
become woods, I have ordered the police who administer each one to vehemently
suppress and eliminate [the practice of] felling [these trees] with axes. [We do all
this with the] special [hope] that we may have success in cultivating [these woods]
and that [we] will see [them] reach the Heavens with no change over ten thousand
valleys. Trees and humans [will continue] for a hundred years.832

These last few lines of text in particular (beginning with "will see them reach the Heavens
將見參天 . . .") come directly from a paragraph of A Brief Description that I cited in full
above.833 Their location deep within the text on page thirteen suggests that Han Yanhuan
had a high degree of familiarity with the pamphlet’s contents. If Han Yanhuan was to be
the lone voice in defiance of popular notions of the role of trees in their environment, he
could at least be assured that he was on the side of knowledge and power.

Outside of the remote counties in Jilin Province, officials and educators across
China accepted Arbor Day's call to reevaluate the role of trees in local landscapes with
mixed levels of enthusiasm. How was one to convince the local people to create and
conserve forests when they only saw trees as the source of materials necessary for
survival? In 1916, the governor of southern Jiangxi Province – Qi Yang 齊陽 – attempted
to use the region's strong faith in the principles of geomancy to encourage interest in
scientific forestry. Writing in the vernacular (白话), the governor appealed to the province's
illiterate farmers to reforest Jiangxi’s denuded hills and mountains. Trees could certainly
generate wealth for local communities, he argued. But the ability of their roots to
strengthen the mountain soil and the ability of their leaves to cover the mountain's
geomantic veins 山脉 were just as important. Thanks to the forest, flood dragons would
no longer have cause to emerge from their mountain dens to devour Jiangxi’s crops and
lay waste to its villages.834

In other words, Qi Yang argued that the human protection of the spirit world
through the cultivation of trees on mountainous terrain was an essential component of
China's economic development. As such, the forest represented not a remote, natural or
independent ecosystem. Rather, its value lay in great part in its proximity to human life,
serving either to provide economic benefit through logging or communal benefit through
flood prevention. Furthermore, deriving from the language of geomantic theory, the value
of the forest in Qi Yang’s description also lay in providing a spiritual harmony. Local
peasants all knew that the health of a mountain's veins along which Chinese sought to
bury their dead is directly tied to the spiritual health of one's family. The goals of this
strange new ceremony that promoted reforestation could thus be considered perfectly

832 每於接見各校校長，並當地紳民，以及婚嫁喪壽誕兒各事，無不殷殷囑植，以垂紀念，而樹風聲。所有
成林佳木疊，敘管警察嚴行取締既免斧斤之伐，尤得休養之功，將見參天萬壑無異，樹人於百年也。
833 See: Gu Chao and Han An, p. 13.
834 江西巡按使，〈劝植树白话〉江西省农会报, 第 8 期 （1916 年）。
compatible with local needs and beliefs. As such, there was no reason for it not to receive full support from the community.\textsuperscript{835}

Tsinghua University's 1917 ceremony similarly attempted to cater to local beliefs in order to instill a faith in this foreign concept of the forest. A student reporting on the event in the \textit{Tsinghua Weekly} \textit{清华周刊} wrote that participants learned Arbor Day was an American holiday of great importance to President Theodore Roosevelt.\textsuperscript{836} As the holiday is tied to the global world, the article implies, students should consider it of great importance as well. Participants in the ceremony also learned the four ways through which trees benefit modern society: beauty, flood prevention, wood products, and weather regulation.\textsuperscript{837} The elements of beauty (first on the list, it should be noted) and weather regulation were noticeably absent from Qi Yang's exhortations to Jiangxi peasants. However, like Qi Yang, Tsinghua instructors derived from geomantic tradition in their attempts to inspire an interest in forestry. Arbor Day activities continued with lessons on how to plant trees in the center of campus, after which their teachers sent them out to plant trees in all four directions of the campus.\textsuperscript{838} This idea of directional symmetry formed a core component of Chinese cosmological thought. For example, the Five Sacred Peaks 五岳, from which all geomantic veins 地脉 originated, all corresponded to the five geomantic directions: East, South, West, North and Center.

Throughout the 1920's, officials, foresters, elites and students all continued to act as participants in discussions about the meaning and role of the forest in modern Chinese society. For instance, the students of the Dongting County 东亭县立高等小学校 sang the following words in 1924: "The fair Tomb Sweeping Arbor Day promotes forestry. It places the peasant-farmers first as it creates [forests in] all places without wasted earth and carry on the glory of Dongting's industry. Long live the tree farm! May it live long without end 值清明之佳节兮, 林业提倡, 先农民而造作兮, 尽地方无弃壤, 发扬东亭实业之荣光兮, 林场万岁万岁无疆!"\textsuperscript{840} The purpose of the forest promoted in this song was promote rural industry. Moreover, the forest represented a way to turn wasteland into communal profit. As such, the song not only encouraged local residents to ponder the utility of their county's land, but also to consider the forest as equally useful as arable land.

\textsuperscript{835} See: Richard J. Smith. \textit{Fortune-tellers and Philosophers: Divination in Traditional Chinese Society.} Boulder, CO: Westview Press, 1991. Smith notes a surprising unity in the language surrounding geomancy and cosmology throughout the late imperial period. Local variations tended to center around issues such as the factors used in site selection, as opposed to resistance to larger concepts such as earth veins.

\textsuperscript{836} 《植树节记》清华周刊，第 105 期（1917 年），第 6 到 7 页。

\textsuperscript{837} Ibid.

\textsuperscript{838} Ibid.

\textsuperscript{839} Located in Henan Province.

\textsuperscript{840} 《植树典礼》学生文艺丛刊，第一卷第 7 期（1924 年），第 4 页。
Over the course of the Beiyang period, some counties even made meaningful strides in reforestation as a result of Arbor Day. For example, from 1916 to 1926, Yushu County 榆树县 in Jilin Province planted a total of 4,086 trees in a variety of different locations. The selection of these locations was a statement in itself, defining certain locations as ideally forested and the forest as having certain types of parameters. In 1915 and 1916, the first two years in which it completed reforestation projects, Yushu County chose to reforest barren hills and flat wasteland along the outskirts of the county seat. Other years locals chose to plant trees in the county's ritual hall, Bureau of Education, or model elementary school. Considering the number of factors that could lead to the damage (pests, disease, theft, children, livestock, wildfires, etc.), the Arbor Day trees also had a high rate of survival. By 1926, Yushu County reported that 62% of the poplar trees planted in 1915 were still alive. In the same year, the county also reported that 91.5% of the poplar trees planted in 1916 had survived. This most likely indicates a high level of local care for these trees.

All of these trends led some residents of China to look upon Arbor Day as positively impacting Chinese attitudes toward reforestation. In 1921, an American professor at the University of Nanking 金陵大学 published a pamphlet in an attempt to solicit funds for forestry programs in China from American donors. In its early pages, Prof. John Reisner proudly touts the progress made by Chinese foresters over the course of the previous decade:

After centuries of neglect, China last year spent about a quarter of a million dollars in forestry work – planted about one thousand nurseries, deforested about one hundred thousand acres of otherwise useless land and produced about one million young trees. About one quarter of her eighteen hundred districts have forest nurseries for the upkeep of which they are taxed. Several of the provinces have developed Provincial Forestry Services. Arbor Day is increasing in popularity and its observance is being greatly extended each year . . . These facts indicate clearly that China is making progress in her forestry development . . .

The report continues in an optimistic tone, arguing that the essential direction of Chinese forestry programs is sound and will continue unless foreign funds dry up. The adoption of Arbor Day in particular was a positive step, as it sought to promulgate forestry among the Chinese public. China may be desperate for a solution to its environmental problems, but it is by no means hopeless. "The nation that helps her reforest her naked hills will be a friend indeed." However, as we shall see in the following section, Reisner’s view lay firmly in the minority.

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841 Jilin Provincial Archives, 111-2-1023.
842 Ibid.
843 Ibid.
845 Ibid, p. 15.
Arbor Day's Detractors and the Rise of Reforestation Propaganda Week (1919 - 1937):

Public critiques of Arbor Day began to take shape in the early 1920's. Many of its earliest critics were foresters or agriculturalists. A 1924 article by the forestry student Kang Nongman 康农满, for instance, points out that the high rate of national compliance with Arbor Day should indicate its effectiveness. He writes:846

Recent years have been marked by continuous internal chaos 内乱相寻 and we often see conflict. Only [the ritual of] Arbor Day has been continuously and unanimously carried out without regard to [differences between] the North and South . . . gentry, merchants, scholars and commoners, government [officials], students, soldiers and citizens all gather together in one place to emphasize planting trees in grand rituals [performed by] distinguished men 胜会盛典. Isn't this a bright light for the future of Chinese forestry?847

Nevertheless, while the holiday had laudable goals, they were ultimately ineffective due to a lack of strong supporting institutions. Kang explains: "[China should] not only have the name of planting trees, [rather it is] better to have the reality of planting trees . . . not only plant a small number of trees, [but rather it is] more necessary to create large forests 非惟有植树之名，尤宜有植树之实。。。不但植少数之树，更须造大宗之林."848 Put another way, Kang objects to the "incorrect" interpretation of a "forest" as a small grouping of trees, rather than a large, sprawling ecosystem.

Similarly, in a 1921 article in the Hubei Provincial Agricultural Association Newsletter 湖北省农会农报, Yuan Ying 袁瀛 questions the efficacy of Arbor Day in promoting his specific vision of forestry. Like Kang, he objects to the celebration's promotion of the definition of the forest as centering around small, local plots of trees. Arbor Day ensures that a province has planted small tree farms, Yuan explains, but does not compel them to draw forest boundaries.849 Arbor Day trees were thus more of an agricultural product than part of a larger ecosystem, a forest in name but not in reality.

Still, other critiques of Arbor Day centered on issues unrelated to the specialist vision of large, continuous Chinese forests. Some objected to the conflation of Arbor Day with Tomb Sweeping Festival. To merge Qingming Festival with Arbor Day was to invite the association between trees and death. A 1926 short story entitled “Arbor Day” plays upon these themes. The protagonist – referred to as just “V” – is an impoverished teacher in Wuchang whose school grants him the day off for Arbor Day. This announcement

846 康农满, 〈清明植树节〉北京大学日刊, 第 1434 号（1924 年 4 月 1 日）, 第 1 页。
847 近年内乱相寻，常見分歧，惟獨植樹節，無論南北，一致舉行。。。紳商士庶，政學軍民，聚集一處，講求植樹此盛會盛典，非中國林業前途一大曙光歟？
848 Kang Nongman, p. 2.
849 袁瀛《说植树节之宜人人数》湖北省农会农报, 第 2 卷第 3 期（1921 年）, 第 5 页。
causes him to reflect upon his own dead parents (whose graves he does not visit), his relationship with his wife and children, as well as his own mortality. On a walk along the river with his son V’s thoughts soon turn suicidal. When he enters the shop where he normally buys rice, he finds coffins for sale alongside the rice. He runs out, crying: “Rice! Coffins! Rice! Coffins! Rice! What a contradicto-
y view of life this is! Should I buy rice today? Or should I buy a coffin? 米！棺材！棺材！米！这是如何矛盾的人生观哟！今天来买米好呢！买棺材好呢？”

Zhang Ziping’s protagonist thus serves as an example of the devastating effects of conflating the past with the present. Coffins (a symbol of Tomb Sweeping Festival) and rice (a symbol of Arbor Day) do not belong together. Mixing the two can only bring confusion or, in V’s case, insanity.

Without the clarity of meaning and uniformity of practice, critics argued, Chinese minds and Chinese space would remain hopelessly backward. With this in mind, the articles in the Nationalist Party’s *A Special Edition on Tree Planting* took a critical stance on Arbor Day as practiced in the Beiyang Period. Critiques primarily centered around two issues. First, the foresters attacked the holiday’s lack of efficacy in achieving a particular image of reforestation as resulting in the creation of large forests rather than small groves. Second, they bemoaned the exclusive rather than inclusive nature of participation in the ceremony. As one critic explained:

Previously Beijing and each of the provinces would all conduct the Arbor Day [ceremony] in tall, gaily colored pavilions, as if they were welcoming important guests. The military and police would be densely spread [across the area], as if they were near a great enemy. People’s voices would be mixed and their minds many. In this way the ceremony would begin. A number of people would be carrying sprouts as a group would [act like] a wall watching. In this way they would plant the trees. They would take a photograph for remembrance, glasses and plates would be thrown about, and in this way the ceremony would end. [With] such a superficial, such a perfunctory [ceremony] it is no wonder that at the tree-planting site at the Temple of Heaven you can only see memorial steles standing everywhere like a forest. And every day you can see the tree sprouts withering.

Like questions of efficacy, the issue of a lack of popular participation in Arbor Day ceremonies had precedents in the critiques of foresters throughout the 1920’s. Many

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850 张资平著，《植树节》植树节。上海：新宇宙書店，1928年。第 22页。
851 陈郁《植树式与植树节》植树特刊：总理逝世纪念日刊行，易培基题。南京：農礦部林政司印行，1929年。第 2页。Discovered in the Guomindang Party Archives, Taipei.
852 昔日北京及各省都會之舉行植樹節也，彩樓高搭，如迎上賓；軍警密佈，如臨大敵；軍樂喧阗，人聲雜誌沓，而典禮始焉；數人扶苗群眾壁觀，而植樹行焉；攝影紀念，杯盤狼藉，而勝會終焉；如此虛浮，如此敷衍，無怪乎天壇植樹林場，僅見紀念石碑，遍地林立，而樹苗林木，日見其枯槁也。
bemoaned the fact that Arbor Day was a mere "ceremony 典礼" rather than a pure exercise in forestry pedagogy. As summarized by a forestry student in 1925:853

In the third year of the Republic [1915], Mr. Bailey [sic], the director of the Department of Agriculture and Forestry at the University of Nanking, had good relations with the governor of Anhui province. He in turn suggested [the practice of] Arbor Day to the Ministry of Agriculture and Commerce, encouraging them to adopt the holiday in order to promote reforestation. This resulted in its adoption. However, they merely adopted an empty name and, without investigating the facts, the Ministry of Agriculture and Commerce declared Tomb Sweeping Arbor Day. As such, they merely added a ritual for each year -- such as the rituals of the sacrifice to Confucius and ruyang 瑞阳.854

In Li Shunqing's 李顺卿 view, the ritualistic nature of Arbor Day as practiced in the Beiyang period lead to a departure from its original (and foreign) purpose. In addition, its association with the elitist rituals of the past precluded its relevance to the Republican citizen of today. Kang Nongman – one of the forestry students cited above – emphasizes this point further by arguing that Arbor Day is merely a "a grand ritual with grand men 盛会盛典."855 Without popular participation, critics wondered, how could the idea of the forest gain hold among the people? Without a proper understanding of what a landscape should look like, how could China expect to make significant strides in reforestation?

With a shift in the organization of power came a shift in Arbor Day's form and function. In 1929, the fledgling Nationalist government in Nanjing declared that Arbor Day would no longer be celebrated on the same day as Tomb Sweeping Festival. Rather, every year on March 12th a small tree-planting ceremony would take place to commemorate Sun Yat-sen Memorial Day 国父逝世纪念日. This would also serve as the start of Reforestation Propagation Week 造林宣传周, which would include unspecified activities designed to increase popular interest in and knowledge of forestry projects. As one Arbor Day flyer stated:856

Regarding the meaning of the reforestation movement, it is both to remember Premier [Sun Yat-sen], implementing the late Premier's teachings that we have received, as well as to serve as a guide to the masses, making the masses

853 李顺卿, 《师范生对于植树节的责任》北京师大周刊, 第 226 期 (1925 年 4 月 20 日), 第一页 (emphasis mine).
854 中國當民三的時候, 金陵大學農林科長 Mr. Bailey 他與安徽省長甚交好, 遂將植樹節建議於農商部, 勸中國採仿籍以提倡造林, 竟然也採納了。但是僅僅採了一個虚名。未察其實際, 農商部遂諭全國以清明節為植樹節。於是每年不過添了一個大典禮--有如祀孔, 瑞陽--的典禮。
855 康農滿, 第二頁。
understand the benefits of reforestation. Officials and people [will work together] in unison to complete forest plans.\textsuperscript{857}

In other words, these adjustments were both designed to foster an almost intimate relationship with the spirit of Sun Yat-sen, as well as propagate the belief that China should be a nation of large forests rather than scattered trees.

As we saw before, memory had been a lingering theme of Beiyang Arbor Day celebrations. But the GMD raised the association between memory and forests to new heights. Expanding on the idea of the "memorial trees" proposed in \textit{A Brief Description of Tomb Sweeping Arbor Day}, forester and GMD member Chen Zhi 陳植 advocated the planting of memorial trees on anniversaries of national pride and even national shame. Trees, unlike steles, could last for an eternity, as evidenced by the fact that the trees planted in the woods at the Tomb of Confucius\textsuperscript{858} had survived for over two millennia.\textsuperscript{859} Over the next several years, the rise of Sun Yat-sen Memorial Forests 孫中山紀念林 throughout GMD-controlled China would directly foster this notion that the spirit of Sun Yat-sen could live on in the trees, just as the spirit of Confucius could live on in the pines that surround his tomb. Architectural historian Lai Delin has noted the lexicographic slippage between the word for "tomb (\textit{ling} 陵)" and "woods (\textit{lin} 林)." Only the graves of emperors and their family members could be considered \textit{ling}, while those of other significant personages could be designated \textit{lin}. Therefore, in spite of the architectural similarities with the tombs of the Qing emperors, Yuan Shikai’s grave site in Henan Province was designated the \textit{Yuanlin} 袁林 due to his abdication of the title of emperor prior to his death.\textsuperscript{860} Sun Yat-sen – despite having made no claims to emperorship – thus received the unique honor of having one \textit{ling} in Nanjing as well as hundreds of \textit{lin} – or woods – throughout GMD China.

The number and density of the trees in a given locality could thus be considered as a physical symbol of the strength of its people’s memory of Sun Yat-sen. One could not simply believe in the importance of having trees; in order to believe in trees, one must believe in the memory of Sun Yat-sen and the critical importance of the forest to the Chinese nation. Under this framework, in order to achieve the uniformity of space through reforestation, the GMD first needed to achieve a uniformity of understanding in what the parameters of a forest should be.

In this respect, the goals of the GMD were no different than those of Arbor Day’s proponents in the Beiyang period. The GMD merely differed in its recognition of the critical importance of popular support in achieving this vision of China as a forested nation on

\textsuperscript{857} 至於我們造林運動的意義，同樣是紀念總理，稟著 總理遺教來實行，並且為民眾的倡導，使民眾知道造林的利益，官民一致的來完成森林的計劃。
\textsuperscript{858} In Chinese simply referred to as the "Confucius Woods 孔林."
\textsuperscript{859} 陳植《擴大造林運動計畫芻議》植樹特刊：總理逝世紀念日刊行，易培基題。「南京？」：農礦部林政司印行，1929，pp. 23 - 26. Discovered in the GMD Party Archives.
\textsuperscript{860} 赖德霖。民国礼制建筑与中山纪念。北京：中国建筑工业出版社，2012，第 141 页。
par with and independent from the outside world. In a time of timber scarcity, reforested areas made tempting targets for the poor in particular. To both value the forest and abandon one's personal needs for the public good was an ideal that needed to be taught. Henrietta Harrison has argued that state rituals of the Beiyang period were remarkably inclusive as compared to those of the Nationalist period. Beiyang ceremonies, she argues, emphasized the presence of officials, gentry, students and peasants. As such, she argues that the Beiyang period experienced a rather inclusive vision of the public as political participants. This stood in direct opposition to the more restricted view in the Nationalist period, which defined civic membership along the same lines as Party membership.861

However, evidence from Arbor Day suggests that this was not the case for all types of rituals. While some local Arbor Day celebrations in the Beiyang period attempted to include peasants even in the capacity of observers, most did not. By contrast, Nationalist ceremonies tended to be larger and deliberately more inclusive of those who worked in the agricultural sector. Throughout the Nanjing Decade, the Ministry of Agriculture and Mining's orders regarding the ceremony all emphasized the need for greater inclusiveness. For example, section 7 of the 1930 guidelines for Reforestation Propaganda Week stated clearly the need for active participation in the ceremony on the part of the public. "Each county should order that before the [ceremony] the agricultural associations should exhort the masses to participate actively in the tree-planting ritual."862 In other words, the success of Arbor Day depended on the active participation by as many as possible, even if that participation came about only as a result of the persistent nagging of agricultural associations.

Arbor Day celebrations that took place in Beiping863 in the early 1930's serve as evidence of this trend. In these years, Beiping celebrated Arbor Day with pomp and circumstance. In 1931, for instance, the mayor reported that over eighty groups and thousands of people the ceremony. They marched through the streets of Beiping for hours, during which time they inspected the previous year's Sun Yat-sen memorial forest as they marched to the planting site in Andingmen. They planted four thousand willow and three hundred pine trees that year.864 Documents related to the ceremony emphasized the critical necessity of popular participation to the success of Chinese reforestation. A propaganda leaflet distributed during the 1932 ceremony emphasized that officials could not reforest China on their own. Only with the help of popular reforestation projects could China truly hope to experience the benefits of its forests.865

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862 Jilin Provincial Archives, 18-3-139.
863 The name for Beijing from 1928 - 1949.
865 Ibid.
As will be explained in greater detail in the following chapter, the Nanjing Decade experienced a dramatic rise in vernacular language forestry guides and tree-planting instructions. Although the 1930's did experience a rise in published discourse surrounding the "forest" and forestry, the GMD's propaganda organs were by far the largest producers of materials directed toward groups with a lower level of literacy. The language of these educational pamphlets was comparatively simple and colloquial, making the contents intelligible even when read aloud. Even in Zhejiang Province, with its comparatively high literacy rate and long tradition of scholarly excellence, the provincial propaganda committee attempted to clarify its message with the use of colloquial phrasing.\textsuperscript{866}

Recently in China, because [our] agriculture has been declining, no one has paid attention to forest matters, which has led to floods and droughts becoming disasters. There's no way to save [those who have suffered]. Timber is even more scarce . . . from 1912 to 1918, [the amount of money spent on] timber products imported from abroad even came to 708,190,000 yuan. This leaky granary that is flowing into the hands of imperialists is such an incredibly huge loss for us! . . . Compatriots! My dear compatriots! Let's stand up together and carry out [the task of reforestation] according to the [proper] methods!\textsuperscript{867}

The Party-sponsored Capital Reforestation Movement Committee, in its desire to reach an audience even less educated and patriotic than the compatriots of Zhejiang, took on the tone of the schoolteacher exhorting her pupils to study: "If everyone can just put in a little bit of effort in doing it, then our country's wasted forests can soon begin to restore [themselves]! Wouldn't that be something to celebrate? If everyone could use their strength to help, then our wasteful forests can soon be restored! That wouldn't be a very good thing?"\textsuperscript{868}

As such, throughout its period of rule, the Nationalist Party became the primary source of easily accessible information on forestry. Through the Arbor Day ceremony itself, as well as the educational pamphlets and publicly hung banners that accompanied it, the Party sought to pair its image of the forest with the memory of Sun Yat-sen. Beiping's 1931 propaganda leaflet speaks of the forest as the "precursor 先聲" of Sun Yat-sen's plan to reinvigorate industry, as it regulates temperature to protect against urban heat spells, regulates rainfall to protect against flood and drought, preserves water sources to protect the cleanliness of drinking water, and prevents erosion to protect agricultural land.\textsuperscript{869} Nanjing's 1935 reforestation guide begins with images of a proud Chiang Kai-shek planting pine trees at the city's Sun Yat-sen Memorial Forest and

\textsuperscript{866} 植樹淺說。「杭州？」：中國國民黨浙江執行委員會宣傳部, 1930, pp. 1 - 3. Discovered in the Guomindang Party Archives.

\textsuperscript{867} 中國近年因為農業衰頹，森林事業沒人注意，致水旱成災，無法救濟；木材更形缺乏。。。自民國元年至七年，由國外輸入之木料，竟達七千零八十九萬元。此種流入帝國主義者手中之漏卮，對於我們怎樣一個巨大損失！！！同胞們！親愛的同胞們！我們一致起來照著方法舉行罷！

\textsuperscript{868} 造林須知：總理逝世十週年暨森林法施行。[南京？]：首都造林運動委員會印贈, 1935, p. 1.

\textsuperscript{869} Ministry of Economics Archives, Institute of Modern History, Academia Sinica, 17-20-013-02.
concludes with a map of its contents. And, lest repeated reminders through speeches and flyers did not suffice, the Party's Central Propaganda Bureau ordered that slogans such as "Reforestation is the best way to remember the Premier "造林是紀念總理的最好辦法!" and "Reforestation can realize the Premier's plans for material construction 造林可以實現總理物質建設的計畫!" be hung in public view. These were to be accompanied by slogans that either further defined the utility of the forest ("Forests can clean the air, [creating] strong and healthy bodies 森林能清潔空氣，強健身體!"), or explained the inclusivity of the project ("Protecting forests is the shared duty of the government and the people 保護森林，是政府和人民的共同職責!").

Nevertheless, in spite of the rise of popular access to Arbor Day through increased participation in ceremonies and written guides, officials and foresters still complained about a lack of popular interest in and knowledge about reforestation. Even as early as 1930, forester Chen Zhi had declared: "Today's afforesters all mistake 'planting trees' for 'reforestation.' This represents the true reason for our continued failure. 今日營林者，類皆誤以「植樹」為「造林」，此殆失敗癥結所在焉." In 1934, the Beiping municipal government's reforestation informational leaflet berated citizens for failing to initiate reforestation projects. The city hoped that providing more detailed instructions for planting trees might motivate its citizenry to actively pursue reforestation. Yet, despite their consistent exposure to the ideal of the forest through Arbor Day, some people proved stubbornly impossible to persuade, according to the Nanjing reforestation manual cited above. The manual cautioned its urban audience to beware of rural people who might harm forests. "There's just a certain type of people who hold evil intentions toward forests and those who own forestry [projects]. They will take advantage of any opportunity to intentionally set fire [to forests] 就是有一種的人，對於森林林業主懷一種惡意，故意乘機放火." In order to prevent such horrific actions, rural people should be continually exposed to the ideals of forestry through lectures. Police should also be dispatched to guard the forests. Even positive associations with Sun Yat-sen could not assuage this inexplicable anger some felt toward forestry.

In the end, the factors that most unified Arbor Day celebrations were also what undermined it: temporal, territorial, and ideological unity. Chinese territory includes a wide range of climates. This meant that no matter which date the national government chose for a unified, national ceremony, it would not be suitable for the majority of Chinese
climates. From 1916 to 1928, the day was Tomb Sweeping Festival (April 5th or 6th), which suited the climate in Beijing. After 1929, the Nationalist government celebrated Arbor Day on Sun Yat-sen Memorial Day (March 12th), which suited the climate in Nanjing. When in 1934 the Beiping municipal government defied orders and held the ceremony on Tomb Sweeping Festival, they were quickly rebuked by the Ministry of Industry. In the end, despite the GMD's more serious investment in the promotion of reforestation, the propagation of Sun Yat-sen as a symbol of Chinese unity proved more important than the health of its trees.

**Conclusion:**

I began this chapter with Z.T. Yui, the Chinese Christian diplomat sent to America to briefly study American forestry techniques, and the foreign eyes that watched him. Foreign eyes, foreign ideals, and foreign resources all played no small role in shaping the rise of Chinese Arbor Day as a political ceremony and pedagogical exercise. By the first year of the Republic, the embarrassingly deforested state of the Chinese landscape had become common knowledge in the Western world. To say land was barren was to think of China, just as in our present age to say a place is poor is to think of the continent of Africa. Early in the chapter, American-trained forester Ling Daoyang noted feeling shame that foreign forestry presentations always seemed to show images of Chinese landscapes when discussing deforestation. Yuan Shikai – the Republic's president and emperor – expressed similar disappointment in China's unwelcome notoriety.

Foreigners living in China, such as the wistful agriculturalist Joseph Bailie, and trained Chinese foresters such as Cui Huchen, Han An, Ling Daoyang and Chen Zhi, all knew that Chinese attitudes toward forested space were to blame for China's backward landscape. They knew this because they too had been instructed in how to "love" and "cherish" this ideal of the sprawling "forest," by this point unrealized in all but the most remote of Chinese spaces. In Bailie's case, this instruction came from America's many Arbor Day celebrations, through which schoolchildren were instructed in the proper relationship of humans to forested space. And in the case of the Chinese foresters, instruction came in great part through foreign teachers and foreign textbooks, as we saw in Chapter 3. Those who sought to transform China's landscape were thus well aware of the "success" of Arbor Day in propagating the love of the forest to the American public. The proof of their superior cultural attitudes lay in the wealth of America's forests and the poverty of China's meager groves.

Yet I have also repeatedly emphasized that China's Arbor Day represented no mere carbon copy of American traditions. Those who advocated the introduction of Arbor Day to China drew upon China's own tree-planting traditions in the hopes of reaching  

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878 Ling Daoyang, p. 1. 
880 Gu Chao and Han An, p. 8.
those who lived beyond the pale of "modern" intellectual influence. The decision to initially celebrate Arbor Day on the same day as Tomb Sweeping Festival was predicated on the belief that while some "superstitious" folk practices surrounding death (such as burning spirit money) were harmful to creating forests, others could be harnessed for the greater good of forestry. The principles of geomancy that favored the placement of graves in the proximity of trees, for instance, and the planting of trees on mountainous terrain where spirits resided, could all be put in the service of the creation of large forests to benefit Chinese health, safety, and economic security. The half-hearted attempts of Beiyang officials and foresters to promote the practice of planting "memorial trees" on occasions of personal significance are representative of this vein of thought. The Nationalist Party expanded upon this abortive attempt by holding its Arbor Day ceremony on the same day as Sun Yat-sen Memorial Day, as well as sponsoring the planting of Sun Yat-sen Memorial Forests throughout its territory. Banners hung on buildings, streets and around the forests themselves reminded the local populace that: "To reforest is the best way to remember Sun Yat-sen!"

Yet in spite of the most fervent wishes of its proponents, most local officials considered the purpose of Arbor Day either conceptually elusive or irrelevant to local life. Not a single official document or popular reforestation guide took the time to actually define this newly imported concept of the "forest," leading trained foresters to consistently bemoan the failure of China's officials to sponsor projects that would create vast forests instead of small groves. Temporal and spatial factors further undermined Arbor Day's ideological penetration outside of the main centers of power. That central officials insisted that all celebrations take place on the same day, regardless of the suitability of the time for places in differing climates to tree-planting, proved counter-productive. To plant and nurture the growth of saplings in frozen ground was an exercise in futility. To watch these trees wither and die over the following weeks and months served a potent symbol of the hopelessness, meaningless, and irrelevance of the forest project.

The few officials who did embrace the idea of the forest with any kind of fervor achieved mixed results. A select number of localities embraced Arbor Day, even performing a metaphorical "dance from pure elation" at its arrival. The following chapter will continue this discussion of cases where locals embraced reforestation, yet few seemed to do so in direct response to Arbor Day's call to bring the Chinese landscape into the modern world, or as proof of their personal commitment to the memory of Sun Yat-sen. In the end, most enthusiastic officials had the disheartening experience of having their calls to reforest fall upon unwilling ears. In localities that suffered from extensive deforestation, Arbor Day trees looked like tempting sources of free kindling. In those that did not, newly planted trees merely blended in with the "woods."

If Arbor Day succeeded in anything, it brought the most basic of principles of forestry out of the realm of specialized knowledge and into the sphere of common knowledge. Because Arbor Day existed, even the most disinterested of local officials had

882 See, for example: 陳植。造林要義。上海：商務印書館, 1930, p. 1.
883 Jilin Provincial Archives, 101-6-1378.
to have a basic understanding that trees could serve as more than logs or decoration. From the nation's leaders such as Yuan Shikai and Chiang Kai-shek to the principals of village schools, a basic understanding of how to plant a tree became widespread. Photographic evidence from Academia Historica attests that Soong May-ling even learned to master the art of planting trees in heels as a result of years of attending Arbor Day ceremonies. Though Arbor Day did not succeed in bringing about an active forest culture in Republican China, as its proponents hoped that it might, it did at least bring the vocabulary of the forest as imagined by foresters and economic planners to the fore.

884 Undated image from: 領袖照片資料輯集（五）, 蔣中正總統文物, 002000000007P. Academia Historica, Taipei.
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Chapter 6: Implementing the Forest: Reforesting and Afforesting Republican China

I. Introduction

Thus far I have shown that Chinese states developed a growing interest in managing China’s forest cover over the course of the late nineteenth and early twentieth centuries. Similarly, Chinese elites began to discuss forestry publicly, publishing articles in foreign and domestic periodicals, as well as textbooks for both public and professional consumption. The institutional backing of the Ministry of Agriculture and Commerce, as well as its later incarnation as the Ministry of Industry, supported the publication and, as we shall see, implementation of forestry as a concept on Chinese soil. The Japanese loanword "senlin" 森林, or forest, allowed foresters and statesmen to signal that this new conception of woodlands was modern, global, and economic in nature. No longer would trees only be associated with religious sites such as sacred peaks and temples, or individual economic tree farms. No longer would they be limited to mountainous topography either. Rather, woodlands should also become a part of flat and secular spaces.

As shown in the previous chapter, the holiday of Arbor Day served as a way to promote the concept of forestry to the general public. Just as importantly, Arbor Day also served as an impetus for officials throughout China to put forestry into action by conducting reforestation projects. Beginning with the early celebrations of this holiday, central officials demanded that their local counterparts submit accounts of the trees planted, including their number, species, and health. These reports would be accompanied by photographs of the ceremony’s participants next to some of these trees as proof that they had indeed completed the project. During the 1930's, this connection between Arbor Day and Chinese reforestation grew to become more explicit, as Arbor Day became part of the Guomindang government’s “reforestation propaganda week 造林宣传周.” This represented an intensification of the central government’s involvement in promoting and implementing reforestation. Central officials at the Ministry of Industry demanded more detailed accounts of reforestation 造林 projects and created standardized forms through which to better hold officials accountable for the data they submitted. For a brief period of time, the Ministry even offered its own funding for private tree-planting projects.

In this chapter, I will show that the implementation of state-mandated reforestation projects reflects several Republican-era trends. Neither the Beiyang period’s Ministry of Agriculture nor the GMD period’s Ministry of Industry set specific reforestation targets. For instance, the Ministry of Agriculture and Commerce’s 1916 order merely stated: “We ask the governors [of all provinces with the exception of Yunnan and Guizhou] to decide upon a site on which to personally lead the officials under your authority in planting by
hand trees of good quality 請貴巡按使酌定地點躬率屬手植良木。Nor did either Ministry have any enforcement mechanisms to compel officials to reforest. They merely sent recalcitrant officials repeated reminders to submit reforestation paperwork. As such, that officials and elites in remote locations of remote provinces reforested at all suggests that Republican states had some capacity even in territories over which they had no direct military control. Those that chose to plant more than a few trees further demonstrated their commitment to the project of reforestation itself, albeit in ways that did not always directly accord with the dreams foresters and forestry officials. Those that were able to maintain this tree cover further demonstrated the commitment of their communities to establishing green spaces.

Local officials and their communities further demonstrated agency in determining the sites for and types of trees planted in these reforestation projects. The types of sites could vary from province to province, or even county to county, including mountains, schools, government offices, open fields, river banks, and roadsides. Some of these sites accords with traditional reforestation models, while others, such as the open fields, challenged them. Reforestation, in other words, required its practitioners to negotiate between their community’s cultural, economic and ecological needs. In so doing, they both drew upon and challenged traditional models of tree-planting, creating a distinctly Chinese landscape that they envisioned to be in line with global trends.

II. Reforestation:

Reforestation is defined as the process by which forest cover is restored after its loss through the growth of new trees. As such, reforestation has been occurring throughout geological time as fire, natural disasters, or changes in weather patterns have resulted in the loss and regrowth of trees. For the purposes of this chapter, however, we will only be considering artificial reforestation, or the process of humans planting trees to restore forest cover.

As we saw in Chapter 1, which demonstrated the influence of humans on forest cover and referenced several examples of artificial forest growth in pre-Qing China, humans have played a role in forest growth and loss throughout recorded time. However, it is only in the industrial age of the Anthropocenethat states began to invest resources

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885 Jilin Provincial Archives, 101-5-605.
886 For instance, David Pietz has suggested that the Nationalist state’s capacity did not even extend very far outside the city of Nanjing, as it was unable to conduct successful hydrological projects along the Huai River outside of Nanjing. See: David Pietz. Engineering the State: The Huai River and Reconstruction in Nationalist China, 1927 - 1937. New York: Routledge Press, 2002.
in large-scale reforestation projects. Such programs can be part of community forestry programs, or professional/state forestry programs.

The practice of planting trees in order to alter the environment was a widely accepted practice by the first half of the twentieth century in Japan, the West, and their colonies. Europe’s forest cover decreased by 190,000 square km from 1750 to 1850. However, over the next century and a half, 396,000 square km of European agricultural land was reforested. One study attributes this shift to agricultural intensification and the growing reliance alternative forms of fuel, such as fossil fuels. Alexander Mather’s study of Denmark, Switzerland and France around the same time period notes that scientific forestry management practices, including state-sponsored reforestation programs, also contributed to the increase in forest cover. By restricting access to woodlands and actively promoting regenerative forestry, European states were able to increase their forest cover. This was true even in times when farmers were expanding the amount of land they placed under cultivation, such as in nineteenth-century Denmark.

Reforestation was also very much a part of the Japanese imperial model. In Green Archipelago, Conrad Totman shows that Tokugawa Japan (1600 - 1868) was able to use regenerative forestry practices to preserve and expand Japan’s forest cover. Japanese administrators were eager to incorporate regenerative forestry in their colonies. In David Fedman’s study of Japanese forestry in colonial Korea, he argues that Japanese thought of Korea as a “land of bald mountains and red earth.” Only through reforestation could Japanese “reform the Korean landscape and the ecological sensibilities of its inhabitants,” in turn ensuring that Korea’s environment could support colonization, as well as continued Japanese access to Korea’s valuable forest products.

As these examples all suggest, the motives for state involvement in reforestation could vary depending on its relationship with the land and the people who lived there. Colonial forestry tended to be far more exploitative, though this did not preclude the use of reforestation as a way to maintain economic supply lines in Western countries. For instance, from 1873 - 1891, the United States enacted the Timber Culture Act, which provided free land to homesteaders in exchange for planting forty acres of trees. The federal government created this program in order to expand forest cover in the grassy

889 73,359.41 square miles.
890 152,896.46 square miles.
895 Ibid.
plains of the Midwest to secure fuel for the railroad companies. In the American Pacific Northwest, logging companies began to practice reforestation in the 1920’s, after the introduction of the railroad had made clearcutting forests common practice. Previous practices in other regions of the country, notably New England and the Midwest, had been limited to selective felling, or only logging the most valuable trees in a given area. Such practices made it easier for forests to naturally regenerate. However, with the introduction of clearcutting as a common practice for commercial loggers, reforestation became a necessary part of ensuring the long-term viability of logging as an industry in the United States.

According to this literature on reforestation cited above, states also viewed reforestation as having ecological benefits. These matters of ecology could merge with the desire to maintain economic productivity. Alexander Mather’s paper on nineteenth-century Europe notes that French officials were concerned with the deleterious effects on agricultural productivity caused by the lack of tree cover on hillsides. As early as 1819, French officials began recommending the state play a role in directing reforestation projects in the hillsides. France’s did not enact its first forest law until eight years later. This law transformed communal forest land into national forests to be managed and directed by the state.

David Fedman’s study of colonial Korea notes that the Japanese designed reforestation efforts in part to prevent ecological problems such as flooding and erosion from hampering colonial governance. Foresters such as Tanaka Kiyoji saw flooding as intimately linked to a number of industries, including, but not limited to, agriculture and fishing. Reforestation, in their view, was thus the key to Korea’s ecological stability, which in turn only enhanced the revenues the colonial government could extract from the land.

It should be further noted that in both the French and Korean cases, the state’s concerns with local ecology were limited to flooding and erosion. In other words, in these accounts of state-led reforestation, the state only cared about ecology when it could potentially affect the productivity of other industries, such as agriculture and fishing. As we saw in Chapter 4, international foresters claimed that there were other ecological benefits to forest cover, such as regulating temperature and cleaning the air.

The literature on modern reforestation focuses by and large on the ecology and economic value of reforestation, ignoring the other roles that reforestation played in communities. Put another way, Western and Japanese states saw woodlands in the same way as described in James Scott’s seminal work Seeing Like a State, meaning as mere

898 Mather, p. 43.
899 Fedman, p. 94.
factors in a mathematical equation to increase national productivity and maximize state control over its subjects or citizens. In so doing, they made state-controlled forests legible by planting trees in clean rows as in an agricultural field, ignoring other elements in a forest’s ecosystem such as fungi, animals, and other plant life.\textsuperscript{901}

Reforestation ideologies and practices in China in some way conformed with the examples cited above. First, no matter where they reforested, local elites and governments created legible woodlands, ignoring other elements of a forest’s ecosystem, most notably the needs of wild animals. They also planted some trees for their economic or ecological functions. In so doing, even private citizens saw woodlands through the eyes of the state. Yet this state’s vision was not only limited to matters of economy or ecology. They also saw woodlands through the lens of citizens, residents, and human beings immersed in Chinese cultural traditions. In choosing to plant aesthetically pleasing trees in culturally relevant locations, Chinese elites and officials expanded the state’s vision to include communal happiness and health. As I argued in Chapter 1, these principles were rooted in China’s late imperial geomantic tradition, which saw the tree cover of the geomantic veins in a village, county, province, or even country as fundamentally linked to the well-being of its inhabitants.

Furthermore, the demand by Republican states that all provincial and county governments plant trees on their land regardless of the suitability of local climates to forest cover reveals the depth of the cultural association between forest cover, modernity, and Chinese identity. Nineteenth and twentieth-century governments in Europe, Japan, and their colonies conducted both reforestation and afforestation projects. Reforestation refers to the natural or artificial restoration of a forest on land that it had once covered. Afforestation, on the other hand, refers to the establishment of forests on land that has not been forested in the recent past, such as a desert or grasslands. As evidenced by the Timber Culture Act cited above, afforestation programs were a common grasslands management strategy in the United States during the late nineteenth and early twentieth centuries.\textsuperscript{902} David and Sarah Thomas Karle’s new study of the Dust Bowl further reveals that such practices continued into the twentieth century out of “practical and psychological necessity.”\textsuperscript{903} Migrants to the region saw trees as ameliorating harsh climate conditions in the prairie, in particular the harsh winds. These “shelterbelts” continue to serve this function to this day, “blurring the lines between nature and culture.”\textsuperscript{904}

While reforestation remains a staple of forestry programs and logging to this day, a growing body of literature has come to criticize afforestation programs for their negative ecological affects. Jiang Hong has recently used this literature to critique contemporary afforestation efforts in the PRC under the Great Green Wall program. She argues that afforesting grasslands can result in the loss of biodiversity and the decline in soil moisture and quality. Furthermore, such projects are costly and have a low rate of success. Jiang

\textsuperscript{902} McIntosh.
\textsuperscript{904} Ibid.
points out that a mere 15% of all trees planted on drylands since 1949 have survived. Their planting came at a cost to local governments, both in terms of finances (USD $368–$2,450/ha) and the loss to local water tables. A study by Christine Trac et al. supports this claim that an inattention to ecological conditions has continued to undermine Chinese forestry programs in southwestern Sichuan to this day. The study examines one county where afforestation was practiced and another where officials implemented a reforestation program. Despite at least tacit local support for both programs, only the reforestation program succeeded.

As we shall see below, even some provincial Chinese officials in the late Qing considered the afforestation of grasslands or deserts to be desirable. Central officials in the Republican period, like their counterparts in the United States, would see it as an economic, ecological, and cultural necessity. Both Beiyang and Nationalist central officials would order local governments across all climates and topographies to plant trees. Many grasslands officials complied, though they did admit to high failure rates. However, some local magistrates, most notably those in the grasslands railroad town of Changchun, would offer resistance to these efforts, claiming that “the lands under our jurisdiction are plains and hold no barren mountains.” Such officials suffered no financial, material or military consequences for their disobedience. Nevertheless, the persistent exhortations on the part of their superiors to reforest revealed the depth of the commitment of central officials to imagine a completely forested China.

III. Reforestation in Late-Qing China

As will be recalled from Chapter 1, the twentieth century was far from the only time in Chinese history when elites or statesmen planted trees. Economic reforestation occurred in timber provinces such as Guizhou and Fujian. Tree-planting also occurred on tombs or sites of spiritual importance. What distinguished the nineteenth century and, in particular, the twentieth century from these earlier precedents was the involvement of provincial and national governments.

This came as a response to the specific conditions of the nineteenth and twentieth centuries. Numerous military actions, including the First and Second Opium Wars, the Russo-Japanese War, as well as the Taiping, Nian, and Boxer Rebellions, meant that nearly every corner of Qing land had been affected by warfare. These “fires of war” inspired some Chinese elites and officials grew interested in supplementing and

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907 Karle.
908 Jilin Provincial Archives, 111-2-1195
conserving China’s forest cover. It goes without saying that widespread fire results in a decrease in forest cover. In some instances, fire can be good for the overall health of the woodlands, because it clears out excessive growth. Humans around the world have also used controlled burns for millennia as a way to clear land for agriculture or restore the nutritional health of the soil. However, the types of fires that occurred in nineteenth century China were by and large what Jack Patrick Hayes calls “bad fires,” or those fires caused by humans that are not intended to bolster agriculture or industry.909

The use of fire as a weapon against one’s enemies was a tactic endorsed by both Western and Qing troops, as well as Chinese rebels of various persuasions. For example, in Hayes’ study of Sichuan, he notes that the Songpan County Gazetteer describes a Tibetan rebellion in 1860 in which fire was used as a weapon against Han merchants.910 Fire was also used as a weapon against the imperial household in 1860 with the burning of the Old Summer Palace. Chinese forestry historians attribute the rapid rate of decline in forest cover over the course of the nineteenth century to the increase in fire and other methods of wood destruction (bombs, gunfire, and military logging).911

These fires came at a bad moment for China’s woodlands. As we saw in Chapter 1, China’s forests had been under even greater strain than normal due to the pressures of the population growth of the eighteenth century. Historians of agriculture and deforestation, including Peter Perdue, Robert Marks and Anne Osborne, have shown that shortages in agricultural land had caused poor farmers to move deeper and deeper into the Chinese hills, chopping down trees as they went. This caused much alarm for local officials and elites, who were rightly concerned about the effects of erosion and flooding on their populations. However, attempts to curb this move to farm the hills were largely unsuccessful.912 All this resulted in a forest cover rate of 12.61% in the late nineteenth century, which had fallen from 20% in the early Qing.913

Before the twentieth century, when scientific forestry was first taught and implemented in China, reforestation programs did receive a limited amount of support from regional governor generals. Two examples include Tao Mo 陶模, who served as the Governor-General of Shaanxi and Gansu from 1896 - 1900, and Liu Mingchuan 劉銘傳, who served as the Governor-General of Fujian Province914 from 1884 - 1897.

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910 Ibid., p. 24.
911 梁明武。明清時期木材商品經濟研究。北京：中國林業出版社，2012, pp. 15 – 9.
913 Liang Mingwu, p. 7.
914 The Governor-General of Fujian was also responsible for Taiwan, which he governed as a separate province from 1886 – 1895.
The climates, people and histories of these two regions are very different. Shaanxi and Gansu Provinces both belong to the Yellow River region, which has a semi-arid climate. The Yellow River is also known as “China’s Sorrow” in Western accounts due to its frequent and disastrous flooding. This is due to the large amount of silt that builds up in the river, giving the water its eponymous yellow-brown coloring. However, the early twentieth-century British forester Norman Shaw notes that Gansu Province did have a timber industry in conifers. Tibetan lumberjacks would transport their logs along the tributaries of the Yellow River. From there they would sell the logs to Han and Hui merchants, who would ship them along the Yellow River to other parts of China. Yet despite this vibrant timber trade, reforestation was not a part of Tibetan practice in Gansu around the turn of the twentieth century.  

In a memorial written between 1896 and 1899, the Governor-General of Shaanxi and Gansu urges the imperial household to send out an edict ordering the people of these provinces to conduct private reforestation projects. Tao Mo begins by connecting his proposed reforestation policies to both Chinese tradition and China’s position in a changing world order:

The Rites of Zhou emphasizes Yu Heng’s task [of tending for woodlands]. Mencius discusses axes and hatchets [logging woodlands] at the proper time. Since ancient times dynasties have managed the wilds and [practiced] the art of planting trees. These were emphasized along with agriculture and public works. In recent times, not a single one of the foreign countries from East to West has not paid attention to woodlands administration as a policy that will enrich [the country].

In short, reforestation was both rooted in classical texts such as the Rites of Zhou and the Mencius, as well as modern administrative necessity.

Not surprisingly given the prominence of the Yellow River in the Shaanxi and Gansu region, Tao Mo’s narrative of the benefits of woodlands is centered on their ability to control flooding. He continues:

In ancient times, there were layers upon layers of trees. Their roots and branches were entangled with one another and connected to the grasses so that they became a natural net that stopped the loose soil from falling down with the rain. Later generations logged all the trees from the mountains. The mud blocked the rivers. It was not only the Yellow [River] that overflw. Even small rivers such as

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916 陶模, 《勸諭陝甘通 ›栽種樹木示》, 收入陳忠倚輯, 《皇朝經世文三編》(浙江:浙書局, 1899), 卷 35 戶政十四養民下, 頁 34。
917 周禮重虞衡之職孟子論斧斤以時自古體國經野樹藝與農工並重近代來東洋各國無不講求林政為致富之一策
918 See the previous section.
919 Tao Mo.
the Ba and the Chan were all so choked with silt that they burst through the dykes.\textsuperscript{920}

In other words, Tao Mo attributes the silt buildup in the Yellow River to deforestation. Twenty-first century paleohydrology concurs with this assessment. A 2001 study found that an abrupt increase in sediment volume occurred around 1000 C.E., which corresponds to an increase in human activity in the region. Prior to this, the Yellow River carried an estimated 100,000,000 tons of silt per year, or 1/10 of its present level.\textsuperscript{921} For comparison, this number is still only roughly one fifth of the amount of silt the Mississippi River carries to the Gulf of Mexico each year as of 2001.\textsuperscript{922}

The solution, according to Tao Mo, was to create this net of trees, which was something the region had not seen such ancient times. In fact, no easy word existed to describe what Tao Mo envisioned. As we saw in the previous section, the term for mountain (\textit{shan} 山) had been synonymous with woodlands, while valleys and plains were idealized as the reserve of agriculture. Tao Mo begins by referring to it as a “multitude of trees 樹木繁滋.” Later in the text, he refers to it as “lush trees 密樹” and a “dense woods 叢林.”\textsuperscript{923} Whatever its name, Tao lists six benefits to this dense network of trees in the following order:

1. Flood prevention
2. Increasing water availability in the plains
3. Regulating precipitation\textsuperscript{924}
4. Prevent sickness
5. Absorbing the shock from wind, hail, bullets and bombs
6. Producing agricultural crops such as dates

Note that timber production is not listed among the benefits of woodlands. In this framework, the economic benefits of trees are limited to agricultural products and are

\textsuperscript{920} 古時層層有樹根枝盤互連絡百草天然成籬凝留沙土不隨雨水而下後世山木伐盡泥沙塞川不獨黃流橫溢雖小川如灞滻諸水亦多淤塞潰決
\textsuperscript{923} In today's Chinese, this is usually the term used to refer to a jungle. Incidentally, in Classical Chinese this could also be a term to refer to a Buddhist monastery.
\textsuperscript{924} Both the second and third benefits are tied to desiccation theory, which argues that woodlands help increase and manage water flow. This was a common belief in Chinese, South Asian and Western forestry traditions in the eighteenth and nineteenth centuries. In fact, Richard Grove argues that eighteenth-century Western foresters learned of the theory from South Asian and Chinese texts. See: Richard Grove. \textit{Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600 – 1800}. New York: Cambridge University Press, 1996.
listed last behind safety and health concerns. We will later see that Republican foresters would reverse this framework, placing economic priorities (namely timber) above health and safety.

The benefits of woodlands listed above were supported by geomantic theory, rather than Western science. For instance, when providing evidence that woodlands increase the amount of well and spring water available in the plains, Tao Mo refers to their ability to “draw out the mountain’s vital energy 收取山氣.” With regard to his claim that woodlands sustain the people’s health, the link to geomantic theory becomes even more obvious:

On red earth and barren mountains, yin and yang [become] estranged. The people in these areas are sicker and weaker. Only trees have the fundamental nature to inhale foul air and exhale clean air . . . By planting trees over large areas of distant mounds and barren villages, one can welcome a state of accord with Heaven, expelling the harshness of disease and [allowing] the people to regain their health.

Tao Mo thus argues that deforestation leads to a geomantic imbalance in the land (the estrangement of yin and yang), which in turn leads to sickness for the people who live nearby. This is somewhat in accord with the geomantic theories described in the last section, where the fate of the people was tied to the health of the mountain’s geomantic veins. However, in Tao Mo’s account, trees also provide benefit in and of themselves, regardless of their geomantic location. Trees produce oxygen (“clean air”) and reduce carbon dioxide levels (“foul air”), which in turn reduces the rate of disease. In other words, healing the land would have the welcome effect of healing the people as well.

Tao Mo also pushes back against tradition when describing the location of these new woodlands. In order for this new multitude of trees to meet this multitude of functions, the people needed to reforest both the mountains and the valleys. Mountainsides needed to be forested primarily for flood prevention. But the valleys also needed to be forested to increase water supply, protect humans and their settlements, and increase oxygen levels. Tao Mo lists several types of trees that would be suitable for different types of soil. Conifers (松柏) would be best on hard and infertile (硗确) soil. Moist soil would suit

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925 Tao Mo.
926 Ibid.
927 i.e. flat land without trees
928 天和, a phrase common throughout Daoist texts such as the Zhuangzi.
929 赤地童山, 陰陽隔閡, 其民多病而弱, 唯樹木之性, 收穢氣, 吐清氣 . . . 種樹遍於僻壤荒村, 可以返天和, 驅疫厲而養民病
930 Tao Mo.
Chinese toons (*toona sinensis*) 楘, willows (杞), and white poplars (白杨). Elms (榆), locust trees (槐), date and almond trees would be best on mountain slopes. 931

With the exception of conifers, poplars and willows, many of these trees would not have actually been present in the region. Shaw’s 1914 text states that Gansu contained oaks, birches, cypresses, larch, various breeds of conifers, pear and apple trees, maples, and bamboo. The few patches of forestland in Shaanxi held “paulownia, ailanthus, catalpa, cedrela and varnish,” as well as poplars and willows. 932 Chinese toons, by contrast, are native to coastal and southern China, suggesting that Tao Mo gained his knowledge of the relationship between trees and soil type from sources based in these areas. Nevertheless, despite this oversight, the text does not mention the program’s applicability outside the Shaan-Gan region.

This was because Tao Mo had no intention of implementing his reforestation program outside of the Shaan-Gan region. He first attempts to secure the moral authority of the imperial household to bolster the legitimacy of his program. However, in keeping with late imperial forest policy, the actual implementation of the program would be done on a local level. The proposed imperial edict would both serve to transmit this information to the people in Shaanxi and Gansu, as well as declare a system of rewards and punishments to encourage the growth of woodlands. 933

Local residents (both gentry and commoners) could gain the rights to plant trees and manage woodlands on “official wasteland” by registering with local officials. They would not be taxed on this land in either grain or silver. Those individuals who privately owned wasteland would lose their rights to the land if they did not plant trees within five years. Those who planted more than 50,000 trees would receive a financial reward from “officials 官” of some kind. Punishment would also be meted out to those who cut down these trees, no matter whether the act was intentional. Individuals of means would be fined 1,000 taels. Those without means would be required to plant two trees for each tree they damaged. 934 However, there is no mention for how such policies would be enforced. Furthermore, how would one benefit from the rights to manage woodlands on government land if one could not log? For all its attempts to be systematic and innovative, this foray into a localized reforestation program designed specifically to solve a plethora of problems in the Shaan-Gan region seems unlikely to have produced the desired results.

Governor-General Liu Mingchuan’s exhortation to the people to reforest Fujian had certain similarities with Tao Mo’s plan. First, it lists eight benefits to planting trees, placing the benefits to public health and safety before the economic benefits. These include:

1. Preventing drought
2. Preventing flooding

931 Tao Mo.
932 Shaw, pp. 72, 134.
933 Tao Mo.
934 Ibid.
3. Preventing disease
4. Improving soil quality
5. Protecting farmland from wind and hail storms
6. Absorbing the shock of bullets and bombs
7. Mitigating the costs and challenges of purchasing saplings
8. Preventing conflicts over logging rights

The first, second, third, fifth, and sixth benefits have direct parallels to Governor-General Tao Mo’s list cited above. The only item on Tao Mo’s list that does not appear here is the production of agricultural crops such as dates. This suggests that even in the late Qing there was a shared system of knowledge about trees upon which officials drew. The fact that each official uses different language to express similar ideas further suggests that this knowledge did not come from a standard text, but may have fallen into the realm of common knowledge. At the same time, Liu Mingchuan’s addition of benefits four, seven and eight reveals a willingness to see woodlands as important to local ecology, economy, and life.

The final two benefits in particular indicate that the plan was designed to be relevant to the conditions of Fujian Province. As Elena Songster has shown, Fujian had a vibrant logging industry in the Qing Dynasty that supplied the Jiangnan region with most of its timber. Fujian’s port of Fuzhou appealed to the British as a treaty port precisely because it had access to the timber resources in the interior. The British easily adopted premodern timber markets to the needs of modern technologies, namely ship construction. Fuzhou would also become an important shipyard for the Qing Dynasty beginning in 1870. These ships also allowed Fuzhou to develop a timber export economy, allowing the region to become more thoroughly exploited than it had been before the nineteenth century. Songster notes that Fujian exported five-million-yuan worth of timber in 1919 via Fuzhou. This number doubled in 1920. Already in the 1890’s we can see evidence of some strain through Liu Mingchuan’s declaration that an afforestation program would decrease the rate of conflict over timber plots and decrease hardships with regard to procuring new saplings.

Nevertheless, these nods to maintaining Fujian’s timber economy fall low on Liu Mingchuan’s list. Expanding Fujian’s forest cover to compensate for the damages incurred by warfare proves more important. Like Tao Mo’s program, Liu Mingchuan’s exhortation also relied heavily on the geomantic tradition to persuade its audience of the importance of planting trees to healing the landscape. As will be recalled from Chapter 1, much of geomantic language could apply to either land or the human body. For instance, both humans and the earth have “veins” through which qi – or energy – flows. Liu

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935 焦國模。中國林業史。台北：新文化彩色印書館，1999, pp. 222 – 3.
936 Tao Mo.
937 Regarding the procurement of saplings and the establishment of logging rights.
Mingchuan describes the ability of woodlands to improve soil quality in the following way:939

Fujian has layers upon layers of barren mountains. The qi they produce is dry and the water sources become more stopped up by the day. As soon as you plant trees, the roots become deep and firm and they can absorb the mountain’s qi, helping one another divert the waters. Both near and far, the earth’s veins gradually become able to flow. Because the tree roots can draw in moist soil and can hold back sand and stones, they transform hard and barren dirt into fertile soil. This is the benefit [of woodlands] to transform the quality of the soil.940

Liu Mingchuan relies upon the language of geomancy to describe the benefits of woodlands. Mountains produce qi that is impacted by the amount of forest cover. In this example, Fujian’s barren mountains have qi that is dry and blocked, affecting even agricultural soil in the valleys.

At the same time, like Tao Mo’s description of the benefits of woodlands analyzed above, Liu Mingchuan also sees trees as having benefits in and of themselves independent of the mountains. In this example, they are not merely protecting the mountain’s geomantic veins from being exposed, as the eighteenth-century text from Jiangxi cited in the previous section asserted.941 Rather, their roots are actively transforming the nature of the soil by drawing water sources to land that was previously dry. Liu’s description of the health benefits of woodlands also toys with geomantic principles. At the same time, he argues for the benefits of trees as being independent from their geomantic location:942

A tree’s qi is light and pure; it is called oxygen. Human qi is heavy and impure; it is called carbon dioxide. Trees receive carbon dioxide to enrich their branches and leaves. Humans receive oxygen to free their bodies from impediments. If good-quality trees become a lush [grouping], pure air will be overflowing. All the dirty and harmful qi will not be able to carry on. This is the benefit [of woodlands] to eliminate the severity of disease.943

Here we see a similar attention to the concept of qi, but here it is in reference to the air as opposed to the land. Like Tao Mo, Liu argues that the nature of trees is to increase the level of oxygen in the air, thereby reducing the incidence of disease. A “lush [grouping] of good-quality trees 嘉木成叢” that extends beyond the traditional mountain is therefore necessary to maintain the people’s health.

940 福建荒山甚多, 巒頂巒複, 生氣索然, 泉源日窒。一植樹木, 則根柢深固, 能吸取山氣, 互相灌輸, 由近及遠, 土脈漸通, 因樹根能吸收土膏能攔沙石, 變磽瘠為潤也, 此化地質之利
941 Osborne.
942 Jiao Guomo, pp. 222 – 3.
943 樹氣輕清, 養氣也。人氣重濁, 炭氣也。樹得炭氣以肥其柯葉, 人得養氣以暢其形骸。若嘉木成叢, 則清氣充溢, 一切穢厲之氣, 不得而承之, 此消疫厲之利。
Healing the people’s bodies and restoring the agricultural productivity of the land was not the only way in which planting trees could help protect Chinese from the problems of modernity. Trees also had the added benefit of protecting the people from the dangers of modern weapons in ways that city walls could no longer could.944

In recent days, there has been the strange new occurrence of gunfire. These bullets fly through the air and rip open their targets. Each of the Western countries know that city walls are useless. They all dig trenches and plant trees inside them, ensuring that they are dense enough to confound the eyes. Even though it is easy to lay an ambush from these woodlands, they have the greater effect of blocking bullets. This is the benefit that woodlands have to secure a location against attack.945

In short, these same trees that would protect the people from disease would also protect them from military attack.

Despite Liu Mingchuan’s claim to the contrary, using trees as a natural boundary to invasion is not a new idea in China. Chen Yuan’s research shows that the Northern Song Dynasty planted an artificial forest along its northern border to protect their territory from Jurchen and Mongol invasion.946 However, such state-led reforestation practices had fallen out of favor after the fall of the Song Dynasty. Nevertheless, forests were still recognized as having potential military value. We learned in Chapter 3 that as early as the seventeenth century, Chinese valued the vast forests of Manchuria in part for their ability to prevent a Russian invasion. Even into the Republican era, one geographer would express concern that the felling of Manchurian forests would facilitate a Russian military invasion.947

In fact, the fundamental principles behind many of forest benefits listed above were not new to the final years of the Qing. For instance, as we also saw in Chapter 1, Qing officials were very much aware that forest cover decreased erosion. The fact that officials were discussing how they might protect existing forest cover and promote reforestation would prove to be the more significant change in the late Qing, as it reflected an expansion of the official’s role to include non-agricultural land. This would become more solidified at the central level in 1909, when the Ministry of Agriculture, Works, and Commerce ordered counties to submit reports identifying land that could be

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944 Jiao Guomo, 222 – 3.
945 近日炮火新奇，飛空炸裂。泰西各國，知城郭之無用，皆掘溝種樹，務使濃郁蔥森，迷形混目，既易設伏，更阻飛彈，此固險要之利
947 魏声和。吉林地志。李澍田主编。吉林地志; 鸡林旧闻录; 吉林乡土志。长春：吉林文史出版社，1986.
reforested in their jurisdictions. However, the Ministry made no effort to encourage officials to actually reforest this land.

Nevertheless, in their discussions of tree-planting projects, Qing officials were promoting a vision of wooded space that was not limited by considerations of the land’s spiritual potency. This ideological shift would be fundamental to establishing the “forest” as an independent entity that could serve as a panacea for China’s social, economic and ecological problems.

IV. Reforestation in the Beiyang Period

With the fall of the Qing came the rise of state-sponsored reforestation projects. In 1914, two years after the founding of the Republic in 1912, Yuan Shikai’s government enacted the Forest Law as a sign of its commitment to managing China’s forest cover. As we saw in previous chapters, much of the Law focuses on the definition of national forestland, as well as punishments for those who damage national or protected forestland. Yet the Forest Law of 1914 also established a system of rewards for “individuals or groups who are willing to take over mountains or flatlands [designated as] official wasteland and reforest them 个人或团体愿承领官荒山地造林者.” This clause declared that recipients of the reward program could not reforest more than one hundred square li, though they could be compensated for reforesting additional land that was privately owned. The Ministry of Agriculture and Commerce would compensate those involved in successful reforestation projects between twenty and one hundred yuan for each ten square li they reforested, provided that the trees survived for a total of five years.

Some provincial governments, such as Yunnan and Zhejiang, would establish their own programs to supplement the one outlined in the Forest Law of 1914. Nevertheless, few seem to have considered any of these rewards worthy of pursuit. In 1918, the Ministry of Agriculture and Commerce announced that it would grant a reward to residents in several counties in Fujian. Four counties in Hubei were to be considered for the reward in 1922. Additional examples come few and far between.

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948 Jilin Provincial Archives, 1-35-6266.
949 陈嵘。历代森林史略及民国林政史料。南京：金陵大学农学院森林系林业推广部，1935, p. 66.
950 One li is approximately a third of a mile.
951 陈嵘, p. 70.
952 Ibid, p. 66.
953 《纪事：本省实业近事：奖励造林》《云南实业要闻周刊》第 66 期（1918 年）
954 《附浙江省单行造林奖励章程》《中华农学会报》第 2 卷第 8 期（1921 年），113 – 4.
955 《政府公报》第 820 期（1918 年），12 – 13.
956 《清明植树成绩嘉鱼蕲水黄陂远安四县得了奖励》《湖北省农会农报》第六期（1922 年），第 108 页.
In 1916, the Ministry of Agriculture and Commerce decided that such reward systems were not enough to achieve its goal of large-scale reforestation in China. With the establishment of Arbor Day, the Ministry mandated that each provincial and county government throughout the Chinese nation hold a ceremony on the same day, the culmination of which was the planting of an unspecified number of trees. Each official was required to submit a report of the trees planted in his jurisdiction, accompanied by photographs of the ceremony that featured both the trees and the officials. The Ministry’s guidelines, as expressed in the pamphlet *A Brief Description of Tomb-Sweeping Arbor Day*, featured a sample of this image from the Ministry’s own 1915 reforestation efforts (see Figure 1).

Jilin Province’s extensive and well-preserved records on reforestation allow us a better glimpse into how reforestation might have been practiced on the local level. In Jilin Province, only three jurisdictions initially responded to the Ministry’s order to conduct tree-planting ceremonies on Tomb-Sweeping Festival: Changchun County 長春县, Jichang Circuit 吉長道, Yanji Circuit 延吉道, and the Jilin Provincial Agricultural Experiment Station 吉林省農事試驗場. Changchun County included the two main cities of Jilin City 吉林市 and Changchun 長春. As will be recalled from Chapter 3, eastern Jilin Province was densely forested, while the Western portion resembled the steppes of Mongolia. Jilin City stood at the edge of this forest to grasslands transition. This meant that Changchun County covered naturally forested land in and around Jilin City, as well as natural grasslands in and around Changchun.

Given this disparity in climate, the County wisely elected to plant its trees in Jilin City. More specifically, it chose the Altar to the God of Agriculture 农神祠 in the mountains to the south of the city’s southern gate. It further remarked that it had purchased trees for the ceremony and invited students and gentry to participate. However, other than the fact that the saplings needed to be purchased, no information is provided as to the trees themselves. Jichang Circuit’s report was similarly vague. It merely reported that it chose to plant its trees in a village on the outskirts of Changchun, where it was in the process of establishing a tree nursery (*miaopu* 苗圃).  

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957 古巢和韓安著。清明植樹節說略。北京：農商部，1916 年 3 月。Discovered in the Jilin Provincial Archives, 109-5-482.
958 Jilin Provincial Archives, 101-5-605.
959 Ibid.
960 Ibid.
The Agricultural Experiment Station and Yanji Circuit both offered more detailed descriptions of their tree-planting practices. The Agricultural Station reported that each of its unspecified number of employees planted two white poplars (*baiyang* 白杨) along the western side of the Station’s flower garden. Yanji Circuit in eastern Jilin reported that the officials and gentry who participated in its ceremony “each planted several poplar and willow saplings by hand to serve as a commemoration” at the site of Yanji City’s Agricultural Association 农务会. The Circuit even included a map outlining future projects for poplar, pine (*song* 松) and willow trees. These were in addition to the Association’s existing mulberry (*sang* 桑) and almond (*xing* 杏) tree plots.

The nature and paucity of details in these 1916 reports from Jilin Province already reveals several important facts about local Beiyang reforestation efforts. First, the fact that these ceremonies took place at all suggests that the central government did in fact have the capacity to direct reforestation programs. As discussed in the previous chapter, early April, the time when Chinese celebrated Tomb Sweeping Festival, was far from an ideal time to plant trees in Jilin. The province’s Agricultural Experiment Station reported

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961 See the previous chapter for more on this theme of commemoration in Arbor Day ceremonies.
962 Jilin Provincial Archives, 101-5-605.
963 Ibid.
that temperatures averaged 10°C (50°F) during the month of April 1916. The previous month, temperatures averaged -8°C (17.6°F). The act of traveling to these locations on the outskirts of urban residential areas, standing outside in these low temperatures, digging (or watching workers dig) in frozen earth represented a substantial commitment to the project.

These reports also already reveal a mix of traditional (i.e. spiritual/geomantic) and “modern” (i.e. economic/cultural) reforestation practices that later reforestation programs would also exhibit. Changchun County’s ceremony took place at the Altar to the God of Agriculture, a site that should traditionally remain forested. The ceremonies for Jichang Circuit, Yanji Circuit, and the Agricultural Experiment Station all took place in sites associated with modern, experimental scientific agriculture. Jichang Circuit planted its trees in a nursery designed to cultivate saplings in an efficient and legible manner.

Yanji Circuit planted Arbor Day trees on the site of the local agricultural association, which was a recent import based on Western models of distributing modern farming techniques to local farmers. As shown in Chapter 4, agricultural experiment stations served a similar purpose. In 1916, Jilin’s station planted its trees on the outskirts of its flower garden, which was a site reminiscent of the gardens of Jiangnan literati culture. Nevertheless, even in this choice it embodied the modern, scientific method. In fact, it had already begun experimenting with foreign tree species and modern tree-planting techniques in other parts of the station grounds. One of these tree species, which Jilin Province’s Agricultural Experiment Station refers to only as the Japanese white poplar (riben baiyang 日本白杨), is most likely the same species of white poplar it planted on Arbor Day.

Finally, as this last point suggests, it is unclear from these reports the extent to which local officials and their communities were already equipped with the knowledge necessary to reforest. In these initial reports from 1916, none of the officials (including those at the Jilin Provincial Agricultural Experiment Station) expressed skepticism that the trees would survive, as officials in later years would. Moreover, it was unclear that officials could distinguish between tree species with the degree of precision necessary to develop forestry as an industry. Li Li’s study of premodern Chinese pine and cypress culture notes that her sources often confused the two. In the case of Manchurian pine trees, which Yanji Circuit remarks will be the target of future reforestation efforts, several

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964 《吉林省地方农事试验场民国五年第八次成绩报告》【吉林市？】：【吉林省地方农事试验场？】，1916年，p. 7.
965 前最 likely populus maximowiczii, which, incidentally, is native to northern China, Korea, Eastern Russia, as well as Japan. It is still referred to in Japan as the white poplar (doronoki, which can be transcribed as either 白楊 or 泥ノ木). However, today in China it is referred to as the Liao poplar (Liaoyang 辽杨).
966 《森林部试验成绩报告》吉林省地方农事试验场民国五年第八次成绩报告，pp. 1 – 2.
967 In 1917, several counties would delay their reforestation until more suitable weather conditions arose. See: Jilin Provincial Archies, 101-6-1378.
968 李莉。中国传统松柏文化。北京：中国林业出版社，2006.
species of pine exist in the area, including *pinus koraeiensis*, *pinus densiflora*, and *pinus tabulaeformis*. Some officials, as we saw above, failed to even denote which species of trees they planted.

In mandating that officials all begin the process of planting trees without any training, the Ministry of Agriculture and Commerce presumed a high degree of local knowledge about the cultivation of local varieties of trees. Cognizant of the impact of climate on tree growth, the Ministry suggested in 1916 that counties plant trees that naturally grow in the area. Yet only one year later, the Ministry of Agriculture and Commerce already proved disappointed in the results of this method. Not all officials had planted trees that were a high priority to developing a strong, native timber industry.

In 1917, the Ministry published a guide to the types of trees best suited for individual provinces entitled *Instructions for Reforesting Each of the Provinces*. In the preface, the Ministry outlined the purpose for its publication:

The task of foresting, from raising saplings and reforesting all the way to logging, each step must [proceed according to] a specific plan. Many [positive] results are to be expected. In recent years, the raising of saplings and reforestation of each of the provinces has been expanding step by step. There is an urgent need to select principal tree species [in order to] cultivate many usable timber materials with the expectation of great benefits. It is only [because] our country’s forestry industry is still in its infancy and also [because] knowledge about forestry is not prevalent that the Timber Office [of the Ministry of Agriculture and Commerce] published these methods for managing nurseries as a guide. [The guide also] establishes the types of trees each province should plant with an appendix of reforestation methods. The Office expects that [this guide] will be used widely.

In short, the Ministry of Agriculture and Commerce published the Republic’s very first reforestation guide in order to address shortfalls in knowledge that meant officials might lack the knowledge of how to select and plant “principal tree species [主要树种 [in order to] cultivate many usable timber materials with the expectation of great benefits.”

Following this preface, the *Instructions for Reforesting Each of the Provinces* offers instructions for managing a tree nursery. These instructions are followed by a list of tree

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970 Gu Chao and Han An, p. 1.

971 《各省造林须知》【北京？】: 农商部编发, 1917 年 2 月, p. 1.

972 森林事业，自育苗造林以迄伐木，皆应有计划，庶有成效可期，近年来各省育苗造林次第推广，亟应选择主要树种，养成多数用材，图远大之利，惟是我国林业，尚在萌芽，林学知识，亦未普及，木部为指导起见，编订苗圃管理法，兼定各省应植树种，分类列表，附述造林之方，务期通行适用。。。

973 《各省造林须知》, p. 1.
species the Ministry of Agriculture and Commerce has deemed to be of principal 主木 or secondary 副木 importance arranged according to province. The Latin names for these species, along with alternative Chinese names. For example, among the principal species listed for the two other Manchurian provinces (Fengtai and Heilongjiang), the Ministry first listed the so-called “sea pine 海松,” for which the alternative Chinese name “red pine 红松” and the Latin name *pinus koraiensis* were also provided.\^74 The timber from *pinus koraiensis* is particularly well suited toward construction, including telegraph poles. Its utility for construction was so great that the Choson Korean state had in fact established its forest conservation policies around the protection of red pines.\^75 At the same time, *pinus koraiensis* is not particularly well-suited for other types of reforestation projects, such as the preventing erosion along riversides. As such, the Ministry prioritized the planting of tree species that would be useful for construction, as opposed to other types of projects. At the same time, it encouraged local governments to conduct such projects systematically and with consideration of the economic needs of the nation.

Over the next several years, local governments in Jilin Province would continue to report their annual reforestation activities. In so doing, they would reveal the continued importance many local officials and communities placed on conducting reforestation projects. Local officials adjusted central commands to fit the needs of their communities, including changing the timing of these projects to suit local weather conditions as well as reordering established lists of forest benefits to accord with local desires. Furthermore, even as officials used trees to connect with national and global communities, their reforestation projects would also reveal the continued influence of traditional Han geomantic models on Republican reforestation efforts.

In 1917, one year after the first Arbor Day celebration, ten separate jurisdictions submitted reports on the progress of their reforestation efforts. This was six more than had submitted reports the previous year. Some, such as Jichang Circuit and the Agricultural Experiment Station, merely offered a minimalist report that stated the location of the trees planted. In these cases, Jichang Circuit once again planted an unspecified number of trees of an unspecified type in the nursery outside of Changchun. The Agricultural Experiment Station once again ordered its employees to each plant two white poplars on its grounds, although this time it chose the eastern as opposed to the western side.\^76

Other reports offered detailed narrations of their reforestation efforts, including justifications for reforestation, the process by which reforestation sites were collected, as well as the number and species of trees planted. For instance, as discussed in the previous chapter, eastern Jilin’s Dongning County 東寧縣 begins its 1917 report by

\^74 《各省主木副木表》《各省造林须知》, pp. 3, 7.
\^76 Jilin Provincial Archives, 101-6-1378.
offering a detailed account of the deforestation that has occurred in the region over the course of a decade.\textsuperscript{977}

The Dongning area is remote. The environment is entirely mountainous and it is an area where natural woods grow. Although there are no large forests, there are nevertheless no small number of trees that grow. Of the buildings built and firewood burned by merchants over the past several decades, there were no instances in which the wood was not collected locally. However, the people’s knowledge is not developed. They do not even know the benefits of reforestation, never mind ways to plant [seeds] and replace [what they have taken]. Every day they log; their axes have no moderation. This has resulted in no remaining trees on nearby mountains. In the areas surrounding the roads, such as Wanlu Valley and the Laoye Mountains, there are none that are not utterly bald and barren. This is [the reason] we must urgently plant trees and foster [the growth of] woods.\textsuperscript{978}

In short, the magistrate of Dongning County provides a lengthy explanation of the relevance of reforestation to his own district that does not simply parrot official language.

Just as importantly, Dongning County’s report emphasizes the point that reforestation requires a specific set of technical expertise through its statement that “[the people] do not even know the benefits of reforestation, never mind the ways to plant [seeds . . .].”\textsuperscript{979} He continues his report by noting that the previous year’s tree-planting efforts had failed: \textsuperscript{980} “As the terrain in this location was too steep and the climate extremely dry, all the trees planted [in the previous year’s Arbor Day ceremony] have already dried up. There is not any success to speak of. As such, this year we had no choice but to choose another location.”\textsuperscript{981} Such an account suggests that the effort was taken to ensure that future trees would survive and provide Dongning County ecological and economic benefits in the future. The magistrate ordered that reforestation not begin until after the ground had thawed, as well as take place near the local agricultural association where the soil was more suited toward tree-planting. Over one hundred and sixty trees were planted that year.\textsuperscript{982}

As with the 1916 ceremonies, later ceremonies incorporated a mixture of traditional and modern sites. In the tradition of Han Wudi over two millennia before,\textsuperscript{983} more than ten trees were planted for Jichang Circuit’s 1917 ceremony on the foot of East Fuguo

\textsuperscript{977} Ibid.
\textsuperscript{978} 東寧地處邊陲，環境皆山，本屬天然產林之區。雖無絕大森林，而所產正復不少。數十年來，商民之建築房屋燃燒薪炭何莫非就地取材，無如人民智識不開，既不知造林之益，又不知補種之方。旦旦而伐，斧斤無節，以致近山之樹均已無存，沿途所經，如萬鹿溝老爺嶺等處，無不童山濯濯。是則植樹培林不可不亟為提倡者也。
\textsuperscript{979} Jilin Provincial Archives, 101-6-1378.
\textsuperscript{980} Ibid.
\textsuperscript{981} 因該處地勢過高又值天氣亢旱所種之樹均已枯槁毫無成績之可言本年不能不另行擇地
\textsuperscript{982} Jilin Provincial Archives, 101-6-1378.
\textsuperscript{983} Han Wudi planted the Han Cypresses at the base of Mount Tai. See Chapter 1.
Mountain 負 郭 東 山 之 麓. The Circuit also assured the Ministry of Agriculture and Commerce that it had "exhorted urban and rural residents to plant high-quality trees on the roadsides and mountain feet to serve as the foundation of a forest 勸令城鄉居民於道旁山麓廣植良木以作森林基礎."\(^{984}\) No mention is made of other types of reforestation sites, such as riverbanks and open fields. Ning’an County chose to reforest empty land on the north bank of the Mudan River for its 1917 ceremony. Jilin’s Department of Industry 實業 廳 planted an unspecified number of trees on the sunny side of Mount Bei in Jilin City,\(^{985}\) which was the site of numerous local temples. Fangzheng County planted trees in front of the local elementary school in 1918.\(^{986}\)

In so doing, individual counties were reestablishing their own relationships with their natural environs and creating new landscapes according to localized ideals. To better understand how such a process might have evolved, let us look at the case of Yushu County 榆树县 in central Jilin. Wei Shenghe’s 1914 geography of Jilin Province notes that Yushu County lay between the Songhua River to the southwest and the Lalin River 拉林河 to the northeast. The geography further notes that Yushu County is located on “empty, flat terrain 平原膴[sic]无.”\(^{987}\) According to annual reports, from 1915 to 1926 the County planted a total of 4,140 trees, averaging approximately 376 trees per year. Of these trees, a total of 2,582 – or 62.37% – still lived in 1926.\(^{988}\) Table 1 below provides greater contextualization for these numbers.

Table 1 Number, Species and Location of Trees Planted in Yushu County from 1915 to 1926. Source: Jilin Provincial Archives, 111-2-1023.

<table>
<thead>
<tr>
<th>Year</th>
<th>Location</th>
<th>No. Trees Planted</th>
<th>No. Trees Survived</th>
<th>Tree Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>1915</td>
<td>Outside the County Seat’s E. Gate</td>
<td>500</td>
<td>311</td>
<td>Poplar 楊樹</td>
</tr>
<tr>
<td>1916</td>
<td>S. Slope to the South of the County Seat</td>
<td>260</td>
<td>238</td>
<td>Poplar</td>
</tr>
</tbody>
</table>

\(^{984}\) Jilin Provincial Archives, 101-6-1378.
\(^{985}\) Ibid.
\(^{986}\) Ibid.
\(^{987}\) 魏声和。吉林地志。李澍田主编。吉林地志; 鸡林旧闻录; 吉林乡土志。长春：吉林文史出版社，1986, p. 15.
\(^{988}\) Jilin Provincial Archives, 111-2-1023.
<table>
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<th>Year</th>
<th>Location Description</th>
<th>1st Tree</th>
<th>2nd Tree</th>
<th>Tree Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1917</td>
<td>Inside the County Legislative Assembly</td>
<td>180</td>
<td>87</td>
<td>Mulberry</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>桑樹</td>
</tr>
<tr>
<td>1918</td>
<td>Outside the W. Wall of the County Legislative Assembly</td>
<td>220</td>
<td>45</td>
<td>Willow</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>柳樹</td>
</tr>
<tr>
<td>1919</td>
<td>W. Wall of the Office of Education</td>
<td>300</td>
<td>40</td>
<td>Poplar</td>
</tr>
<tr>
<td>1920</td>
<td>S. Wall of the Office of Education</td>
<td>300</td>
<td>130</td>
<td>Poplar</td>
</tr>
<tr>
<td>1921</td>
<td>E. Side of the Front Gate of the Office of Education</td>
<td>200</td>
<td>120</td>
<td>Willow</td>
</tr>
<tr>
<td>1922</td>
<td>W. Side of the Front Gate of the Office of Education</td>
<td>350</td>
<td>115</td>
<td>Poplar</td>
</tr>
<tr>
<td>1923</td>
<td>Front Gate of the Office of Education</td>
<td>410</td>
<td>392</td>
<td>Willow</td>
</tr>
<tr>
<td>1924</td>
<td>Front Gate of the Office of Education</td>
<td>500</td>
<td>417</td>
<td>Poplar</td>
</tr>
<tr>
<td>1925</td>
<td>Front Gate of the Model School 模範校</td>
<td>500</td>
<td>417</td>
<td>Poplar</td>
</tr>
<tr>
<td>1926</td>
<td>Front Courtyard of the Office of Education</td>
<td>420</td>
<td>270</td>
<td>Willow</td>
</tr>
</tbody>
</table>
With the exception of 1916, when the tree-planting site was a slope on the outskirts of the county seat, Yushu County preferred to plant trees in urban spaces. In particular, the County chose to focus its efforts on government and educational offices, such as the County Legislative Assembly, the Office of Education, 教育局, as well as the model school. 989 Though planting trees near government offices was not unusual, Yushu showed a unique preference for this practice. If the 1914 geography is correct and the local landscape was relatively treeless, 990 the sight of these trees would have drawn attention to these buildings. At the same time, they would also have conveyed the County’s specific relationship to the natural world, one that drew upon late imperial literati gardening traditions. The placement of these trees outside these walls, and, in the case of the earlier years of reforestation, outside the city itself, further revealed the County’s willingness to expand on these traditions by expanding tree cover into the public’s space. In other words, by reforesting its government offices and educational institutions, the remote borderland region of Yushu County was projecting a relationship to the natural world that centered Han traditions and educational culture.

The numbers provided in its 1926 reforestation report also suggest that Yushu County made an effort to cultivate and protect the trees it had planted. As mentioned above, Yushu County claimed that over 62% of the trees planted between 1915 and 1926 had survived. Considering the number of factors that could damage trees in the county seat of a remote area (pests, disease, theft of branches, children, livestock, fire, etc.), the Arbor Day trees had a high rate of survival. For instance, Tongjiang County 同江县 reported in 1925 that it had lost all of its previous years’ trees to a wildfire. 991

Though Yushu’s magistrate did not report the exact mechanisms employed to protect its trees, contemporary archival documents from other counties suggest that institutions to protect these trees may in fact have accounted for this rate of survival. In Chapter 3 we learned that even in the final years of the Qing Jilin’s counties began establishing forest police to guard their woodlands. Like forest rangers in the United States, these police were tasked with maintaining forest cover through such duties as preventing illegal logging and wildfires. 992 In 1930, Fangzheng County’s 方正县 reforestation educational pamphlet noted that newly planted woodlands should be protected with fencing. 993 Yanji County similarly reported in 1925 that it watered the woodlands it had planted in a public park on the western side of the county seat. Furthermore, the County had established fencing so as to prevent small children from climbing on the trees and breaking their branches. 994 The specificity of this example suggests that this had been a problem that Yanji County had encountered in the past.

989 Ibid.
990 Wei Shenghe, p. 15.
991 Jilin Provincial Archives, 111-2-1021.
992 See, for example: Jilin Provincial Archives, 10-2-257.
993 Jilin Provincial Archives, 111 - 2 - 1204.
994 Jilin Provincial Archives, 111-2-1021.
Nevertheless, it persisted in planting a total of over two hundred and fifty trees on six separate sites throughout the entire county that year.995

In other words, expanding local tree cover was a task that required an investment on the part of local officials and communities that went beyond the simple planting of trees or writing of reports. Officials selected sites that were deemed to be beneficial to their communities, whether in creating modern public parks, promoting education, or preventing hillside erosion. Trees needed to be cultivated, and protected so that this message did not lose its potency.

In addition to the health and location of reforested trees, county magistrates could also use tree species to make statements not only about local relationships to the natural world, but also to the nation. In selecting tree species for Arbor Day reforestation activities, several officials in Republican-era Jilin used non-local varieties. In Jilin Province, local agricultural experiment stations or sprout farms were generally tasked with providing sprouts for their respective counties. Nevertheless, in 1918, a local official in Yanji County complained that he could find no high-quality saplings in the nearby vicinity. As a result, he elected to import quality seeds all the way from Beijing.996 Yet this explanation seems far-fetched, given the county’s proximity to virgin forestland and the fact that other nearby jurisdictions had been able to procure seeds. In fact, in nearby Helong County’s 和龍縣 1930 Arbor Day ceremony, participants from across the social spectrum would later plant branches from Yanji trees to supplement their use of local seeds.997 This is a practice Yanji could also have done in 1918 if it had truly faced a seed shortage.

Rather, the use of Beijing seeds seems designed to make a statement about Yanji’s connection to the Chinese nation. Due to its location along the Korean border, Yanji County included a significant ethnic Korean population. In fact, Hoon K. Lee’s 1932 study reports that over 75% of the population was ethnically Korean.998 Today, Yanji City is part of the PRC’s Yanbian Korean Autonomous Prefecture 延边朝鲜族自治州. Though the magistrate of Yanji County does not specify the species of tree to which these seeds belonged, it stands to reason that “trees of good quality 良木” could refer to species more common outside of Manchuria.

Other documents from the Jilin Provincial Archives suggest that this desire to collect and showcase national trees was a desire held in other parts of China as well. In 1915, one year before reforestation became a compulsory part of Republican governance, Hunan Province sent out a request to each of the provinces in China for samples of their “good tree species 良好林種.”999 The Hunan provincial governor reported that “with the

995 Ibid.
996 Jilin Provincial Archives, 101-6-1378.
997 Jilin Provincial Archives. 111-2-1039.
999 Jilin Provincial Archives, 20-4-32.
exception of black locust trees [洋槐, lit. “foreign pagoda tree”] and needled firs 鈞葉杉, which have been collected from other places, our remaining trees are all common local species 除洋槐針葉杉由他處徵集外，餘均係本省普通林種.” The governor argued that it would be difficult to motivate Hunan’s population to revitalize its forestry industry without tree species brought in from other locations. He urged the Manchurian provinces to send him samples of their larch trees (pinus larix 落葉松), white poplars 白楊, and gingko trees 銀杏. Other examples of specimens he desired included Zhejiang’s mulberry trees 桑树, Shaanxi Province’s cashew trees 漆樹, and Guangxi Province’s narra trees 紫檀.1001

Evidence from other locations within Jilin also suggests that some officials may have seen having non-native tree species as important for promoting connections to the Chinese nation. The list of trees planted for Yushu County above shows that they planted mulberry trees, which were native to the Jiangnan region, in 1917.1002 The 1918 reforestation effort for Jilin Province’s Department of Industry 实业厅 included planting Chinese incense cedars (Calocedrus macrolepis 翠柏), Manchurian firs (Abies holophylla 杉松), Olga bay larches (Larix olgensis Henry 黃花松), white poplars 白楊, and willows 柳.1003 While the majority of these species were native to Manchuria, Chinese incense cedars are a conifer native to southwestern China as well as northern Vietnam and Laos. A variant of this species can also be found on Taiwan (Calocedrus macrolepis var. formosana). As Taiwan was a Japanese colony at the time and Japanese presence in Manchuria along the railroads was only increasing, Jilin’s Department of Industry most likely received these seeds from the Taiwanese varietal via Japanese trade networks. As such, the incorporation of Calocedrus macrolepis into the Department’s reforestation program revealed the eagerness of its officials to engage in global forestry.

Yet ecology could undermine this enthusiasm for transforming the landscape through reforestation. In the case of non-native tree species, not all species could easily adapt to Manchuria’s Siberian climate. Unfortunately, the Department of Industry did not provide any data with regard to the number of incense cedars that survived the harsh winter. However, given their preference for tropical climates, it seems unlikely that many would have survived in Manchuria. Likewise, the seeds from Beijing planted by Yanji County in 1918 may or may not have survived depending on the suitability of that particular species to local conditions. With regard to the mulberry trees planted in Yushu

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1000 Ibid.
1001 Ibid.
1002 Jilin Provincial Archives, 111-2-1023.
1003 Jilin Provincial Archives, 101-6-1378
County, there was some success. The magistrate states that 87 out of 180 trees planted in 1917 – or roughly 48.3% – survived as of 1926.\footnote{Jilin Provincial Archives, 111-2-1023.}

Even within the same general region, differences in local soil conditions and plant cover could undermine the attempts to plant trees that were native to the region. As described above, Republican officials did not distinguish between afforestation and reforestation. Nor, in accordance with contemporary forestry practices throughout the globe, did they consider afforesting land upon which there had not been forest cover in the recent past as having negative ecological consequences. The “psychological” need, as David and Sarah Thomas Karle describe it, to see trees on the plains stood at odds with the land in the American Midwest as well.\footnote{Karle, p. 35.}

Binjiang County 滨江县 in western Jilin serves as an example of the importance local officials could place on afforestation despite the resistance of local ecology. Binjiang County is located in what is now southern Heilongjiang, including the city of Harbin. This area belonged to Manchuria’s central steppe, traditionally lands the Qing used for livestock. In the twentieth century, much of this land became used for agriculture.\footnote{See Chapter 3.} In 1918, while reporting on his county’s progress with regard to reforestation, the magistrate of Binjiang County remarked that few trees from the previous two years of reforestation efforts had survived due to his county’s windy and dusty climate. Nevertheless, as “the benefits from planting trees are extremely great 植树之益甚大,” including cleaning the air, increasing soil fertility, moderating temperature, and preventing flooding and drought, he supervised the planting of two hundred willow trees with the hope that they might survive and bring these benefits to his county.\footnote{Jilin Provincial Archives, 101 – 6 - 1378} The next reports for Binjiang County only appear in the record seven years later in 1925. However, they reveal that the County abandoned its plans for creating such shelterbelts in favor of urban landscaping projects. In 1925, it planted 145 poplars on the campus of the 17th Street School in Harbin.\footnote{Jilin Provincial Archives, 111-2-1021} Binjiang County chose the exact same site in the next report it submitted in 1929.\footnote{Jilin Provincial Archives, 111-2-1030}

Northeastern Jilin’s Yilan County 依蘭縣 serves as another good example of this phenomenon in which early enthusiasm for transforming the broader landscape gave way to ecological obstacles. A 1914 geography of Jilin Province notes that the County is located along the Russian border at the intersections of the Mudan and Songhua Rivers. Many other tributary streams expanded out from these twin rivers to fill the valleys. At the time of writing, the woodlands to the East had not yet been exploited.\footnote{Wei Shenghe, p. 18.} Given the large number of rivers and streams, fishing formed a significant part of local life and
The County’s first gazetteer, which was compiled in 1921, offered detailed descriptions of fishing practices.\(^{1011}\)

Yet this did not mean that woodlands played no role in Yilan County’s economy or society. This same gazetteer refers to wildfires and bandits that have denuded the hills. This, in turn, has harmed local industry that depends on the collection of forest biproducts such as mushrooms, pine nuts, and ginseng.\(^{1012}\) The gazetteer also noted that the County was actively trying to increase its forest cover and develop a timber industry, because “the valleys are rather few, the mountains [cover] the majority [of the terrain], and previously there have not been large sections of forest 平原颇少，山岗居多，向无大段森林。”\(^{1013}\) However, several attempts to farm barren hills had only resulted in failure and erosion.\(^{1014}\)

The magistrate of Yilan County began his 1917 reforestation report by listing the benefits of reforestation in the order that he saw them:\(^{1015}\) “I respectfully find that planting trees has the effect of eliminating drought and pestilence, strengthening dikes, and providing firewood, and storing wood for material use. The beauty of these various benefits is more than I can absorb.”\(^{1016}\) Again, the magistrate reorders this list of benefits from those offered by the Ministry of Agriculture and Commerce to privilege the ecological concerns of drought, pestilence, and flood control over material or industrial benefits. Yet, given the dependence Yilan County’s life and economy on its rivers, drought and flooding were both very real concerns.

Nevertheless, Yilan County did not choose a site that would address any of these issues. Rather, the county magistrate led students and officials in planting trees on “empty land on local school campuses 校園空地” as well as a space “to the east of the county seat’s Yongfeng Granary where there is empty public land 縣城西南永豐倉迆東地方擇定官有隙地.”\(^{1017}\) The magistrate further notes that the officials, students, and gentry planted approximately two hundred trees on nine hundred square zhang\(^{1018}\) of land, the soil quality of which was “even and thick, suitable for planting 勻厚栽種合宜.”\(^{1019}\)

\(^{1011}\) 杨步墀，纂修。依兰县志。【？】吉东印刷社，1921。

\(^{1012}\) 杨步墀，纂修。《物产门》依兰县志。【？】吉东印刷社，1921, p. 42.

\(^{1013}\) 杨步墀，纂修。《职业门》依兰县志, p. 55.

\(^{1014}\) Ibid., p. 54.

\(^{1015}\) Jilin Provincial Archives, 101-6-1378.

\(^{1016}\) 遵查栽植樹木所以消水旱，除災癘，固堤防，供採薪，儲材用也。種種利益美不勝收。

\(^{1017}\) Jilin Provincial Archives, 101-6-1378.

\(^{1018}\) One zhang is equivalent to 3.3 meters.

\(^{1019}\) Jilin Provincial Archives, 101-6-1378.
1921 Yilan County gazetteer’s account of the difficulties local agriculturalists faced in finding suitable soil to farm,\textsuperscript{1020} this was no small feat.

Nevertheless, the difficulty of finding suitable sites on which to plant trees and protecting them from the dangers of wildfire and banditry eventually meant that Yilan County’s enthusiasm for the project waned. No further reports were filed until 1925. That year, the County only planted a total of thirty-seven trees, of which only nineteen survived.\textsuperscript{1021} No more reports were filed until 1930, after the Guomindang had gained control over the governance of the Republic.

V. Conclusion

Artificial reforestation, even when restoring forest cover to levels that existed in living memory, is an act through which human beings transform the landscape to meet the needs of their communities, whether national, regional, or local. Previous research on forestry and reforestation has largely focused on these needs as being either economic or ecological. As James Scott argues, “seeing like a state” means making woodlands legible so that the state can extract the maximum amount of economic control over its territory. Forests were thus a resource to be harnessed by the “high modern state.”\textsuperscript{1022} Environmental historians both of China and other countries throughout the world have pointed out that states could also see land in terms of ecology. And yet, even in doing so they still looked upon the problem through the lens of the economy and state power.

As we have seen in this chapter on late Qing and Beiyang reforestation, Chinese states certainly saw trees through the lens of economy and ecology. But in creating their forested landscapes, they also saw through the lens of cultural ideals that shaped the nature and locations of their reforestation projects. Despite China’s reputation as a culture that was anathema to woodlands,\textsuperscript{1023} Chinese officials in the late Qing and early Republican periods demonstrated time and time again a desire to see a greener landscape. In the late imperial period, managing forest cover had long been the responsibility of local elites rather than local governments. And yet, when seeing the destruction that the wars of the nineteenth century had wreaked upon their landscape, the governors-general of Fujian-Taiwan and Shaanxi-Gansu both crafted incentive programs for reforestation.

It was only in the Republican period that reforestation became compulsory for all jurisdictions, regardless of climate. However, as there was no true enforcement mechanism, this mandate existed in name only. Nevertheless, many officials and their communities took to reforestation in earnest by exceeding the minimal expectations laid out by the Ministry of Agriculture and Commerce. Public-sponsored reforestation in the

\textsuperscript{1020} 杨步墀，纂修。《职业门》依兰县志, p. 54.
\textsuperscript{1021} Jilin Provincial Archives, 111-2-1021
\textsuperscript{1022} Scott.
Republican era was just as likely to take place on a sacred mountain as it was a public office, a school campus, a river bed, or even an open field. In so doing, they played with the premodern models of reforestation outlined in Chapter 1, including temples, gardens and mountains. Moreover, they expanded upon these models to include new, more public spaces such as schools, streets, river banks, and, just as importantly, the afforestation of grasslands.

The types of locations reforested varied according to local preferences. In so doing, reforesting officials made statements about their connections to Han tradition and the Han nation by using trees to highlight sites such as official offices and schools. Some jurisdictions in the northeastern province of Jilin even incorporated new, non-native tree species from Southern China in their projects as a more deliberate expression of this sense of community.

However, the local environment, from climate to topography to soil quality, hindered the spread of new tree cover in certain regions. The central Manchurian grasslands, for instance, were not easily afforested, despite earnest efforts. Other regions were plagued by wildfire and banditry, which had the potential to destroy progress that had been made. In the end, however, it was the continued return to planting trees that reflected an enduring sense of hope. This optimism in a time of war and uncertainty would mean that, during the more stable period of the People's Republic of China, locals and foresters would have systems of knowledge upon which they could draw when restoring China's forest cover after a century of warfare.
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Conclusion:

My dissertation has utilized the lens of forestry to show that modern Chinese states and literati attempted (but failed) to radically redefine the form and function of Chinese woodlands to conform to the standards of global, modern forestry. I argue that this represents China’s first engagement with international environmentalism. In so doing, I speak to the literatures on forest history, environmental history, and the history of statebuilding.

Prior to the twentieth century, China was a land with trees, but not forests. Put another way, Chinese conserved and tore down forests in different ways from their Euro-American counterparts. Elite Chinese viewed non-economic woodlands as valuable for their ties to tombs or places of spiritual significance, notions which could vary widely across China’s many distinct regions. For instance, notions of sacred space in Manchuria centered more upon their connections to Manchu hunter-gatherer culture, while sacred space in the Han Heartland could be connected to a local temple, or the tomb of a famous figure, such as the Confucius and Mencius Woods in Shandong Province.

Such systems of conservation began to come under strain in the eighteenth and early nineteenth centuries, when population growth led to the expansion of the amount of land that fell under cultivation. In the Han Heartland, internal rebellions, namely the Taiping Rebellion, further devastated existing forest cover and the institutions that protected it. In the Manchurian periphery, railroads, Han migration, and imperialist industry resulted in visible impacts upon the landscape.

All this came at a time when timber and the forests that produced it began to be seen as increasingly important in global discourse. European and American foresters began to warn of a timber crisis around the turn of the twentieth century, sparking the rise of American forestry institutions. At the same time, these states introduced new integrative technologies such as the telegraph and the railroad that required large quantities of timber to construct, particularly in large countries such as the United States, Canada, and China. As a result, a shared, international environmental vision emerged that was tied to the ideal of forest cover. When Western observers arrived in China and saw its deforested landscape, they saw it through this lens. China thus gained an international reputation as the symbol of deforestation and ecological backwardness.

Twentieth-century Chinese governments and elites attempted to rectify this perceived deficiency by developing a unique vision of environmental nationalism tied exclusively to forestry. Through reforestation projects, they sought to extend forest coverage from the spiritual mountains and into the “civilized” valleys, allowing the

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“wilderness” to become a part of everyday Chinese life. Yet in the process of doing this, they relied upon premodern tree-planting practices and ceremonies that stood at odds with the secular traditions. For instance, the ceremony of Arbor Day served as a vehicle for promoting the ideals of modern forestry to Chinese officials and the Chinese public. Central officials in the Ministry of Agriculture and Commerce placed the holiday on the same day as Tomb-Sweeping Festival, the day Chinese families traditionally tended to their ancestral tombs.

The task of reforestation seemed simple enough; foreign experts had already developed sophisticated techniques for state-led reforestation efforts, which Chinese differentiated linguistically from premodern ideas of woodlands management through the use of the Japanese loanword senlin. Yet implementing these techniques in the Chinese context proved challenging, as local magistrates and elites did not understand the difference between modern and premodern forms of forest management. To the chagrin of foresters, Chinese states and citizens privileged planting trees in sites of traditional cultural importance over the creation of large forests that would allow the nation to both become economically self-sufficient and look aesthetically modern. As foresters sought to harness these premodern ideas for modern purposes, the exact meaning and function of these senlin forests only became more confusing. In the end, the Chinese version of modern forestry looked just as premodern as it did modern. Still, it represented an engagement with modern environmentalism as established by international forestry experts.

The global timber crisis foretold by economists of the early twentieth century never came to pass. In the case of the United States, Sherry Olson argues that this occurred due to the willingness of consumers to use alternative materials in the event timber prices rose. Yet the legacies of this concern over the timber crisis remained. The People’s Republic of China would only continue to expand on the Republican tradition of woodlands management. Put another way, the state would continue to play a role in conserving and extracting China’s forests. As of 1980, the Ministry of Forestry would control roughly half of China’s forests. Heilongjiang Province’s forests (which, due to provincial restructuring, covered most of Republican-era Jilin’s woodlands) were the exception to this rule. They fell under the jurisdiction of the Province’s General Forestry Administration.

Under the PRC tree-planting would still be considered as the primary means toward controlling desertification. State foresters planted over twenty-two million hectares between 1949 and 1980. However, like the wars and rebellions of Old China had done, the Cultural Revolution disrupted efforts to manage woodlands. Forestry research teams

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1028 Ibid., p. 44.
1029 Ibid., p. 41.

Still, Christopher Coggins’ research suggests that some remote communities were able to preserve their woodlands from the attacks of Red Guards. Coggins shows that so-called fengshui forests continue to exist in China’s southern interior. As the name suggests, hinterland communities conserve these woodlands due to the belief that their presence provides spiritual and ecological benefits.\footnote{Chris Coggins. \textit{The Tiger and the Pangolin: Nature, Culture, and Conservation in China}. Honolulu: University of Hawaii Press, 2002.} In the 1980’s, these communal institutions came to be supported by the Forest Law of 1984, as well as revitalized bureaucratic institutions and research centers. As such, China’s timber resources once again became the object of state control. The management of its woodlands similarly has served as a barometer for the PRC’s state capacity in the estimations of political scientists such as Julia Strauss.\footnote{Julia C. Strauss, “Forestry Reform and the Transformation of State Capacity in Fin-de-Siècle China,” \textit{The Journal of Asian Studies}, Vol. 68, No. 4 (November 2009), pp. 1163 – 1188.}

In the twenty-first century, forest cover is no longer the main standard through which international statesmen determine the ecological health of their countries. Concerns about air quality and carbon emissions have come to the fore. Once again, China has gained international notoriety for its poor environmental standards. Where once the foreign press bemoaned the state of Nanjing’s hillsides, now they deride the quality of Beijing’s air. Chapter 5 of this dissertation has highlighted several such articles that appeared in early twentieth-century editions of the \textit{New York Times}. In the twenty-first century, this same newspaper has published articles such as “Life in China, Smothered by Smog,”\footnote{Erin McCann, “Life in China, Smothered by Smog,” \textit{The New York Times}. Dec. 21, 2016.} “Dust Storms Blanket Beijing and Northern China,”\footnote{Gerry Mullany, “Dust Storms Blanket Beijing and Northern China,” \textit{The New York Times}. May 5, 2017.} as well as “Don’t Call it ‘Smog’ in Beijing, Call it a ‘Meteorological Disaster.’”\footnote{Didi Kirsten Tatlow, “Don’t Call it ‘Smog’ in Beijing, Call it a ‘Meteorological Disaster,’” \textit{The New York Times}. Dec. 15, 2016.} Such coverage has allowed China to become uniformly associated with its environmental problems. When the West thinks of pollution, it thinks of Beijing.

In addition to a vast scientific literature on the subjects, documentaries such as Vice President Al Gore’s “An Inconvenient Truth”\footnote{“An Inconvenient Truth.” Dir. Davis Guggenheim. Perf. Al Gore. Lawrence Bender Productions and Participant Productions, 2006. Documentary.} and journalist Chai Jing’s “Under the Dome 穹顶之下”\footnote{“Under the Dome: Investigating China’s Smog.” Dir. and Perf. Chai Jing. Youtube, March 2015. Documentary.} have argued that states should manage air. International agreements
beginning with the 1992 Kyoto Protocol have made air a resource to be managed by the state and assessed by international standards. China is a signatory of the most recent agreement: the 2015 Paris Climate Accord. This marked the state’s official acceptance of the principles of twenty-first century international environmentalism. China’s efforts to improve its urban air quality have further signaled its commitment to managing air as a resource. This continues in the expansion of state authority that began in the early twentieth century. In the late Qing and early Republican periods, total control over resources meant expanding into remote woodlands and underground coal deposits. In the twenty-first century, this has meant that state responsibilities have extended into the air itself. In both the historical and contemporary instances, Chinese statesmen and elites recognized the problem and have worked to remedy it with the aid of international science.

This focus on Chinese air has not led to the disregard of Chinese trees. Reforestation has continued to play a role in China’s twenty-first century ecological postmodernity. As discussed in the introduction as well as Chapter 6, China has undertaken a massive reforestation project in order to build the “Great Green Wall.” Cities such as Beijing have planted “green necklaces” of trees to combat urban pollution. In the tradition of Republican presidents Yuan Shikai and Chiang Kai-shek before him, Xi Jinping has personally planted trees on Tomb-Sweeping Festival. The state-run China Daily has praised such efforts as a means “to help the public cultivate a consciousness of ecological civilization and reach consensus on and join forces to building an ecological civilization.” These are not just empty words. In addition to this symbolic show of support, Xi’s government has pledged to increase China’s forest cover by forty million hectares by the year 2020. To this end, the Great Green Wall project has received ninety-three billion yuan in funding as of 2010.

This combination of political and financial backing has largely succeeded in increasing China’s tree cover. The Global Forest Watch estimates that China’s forest cover stood at 17% in the year 2000, a significant increase from 8% in 1934. A 2016 study by the University of Michigan has shown that 1.6% of China’s land experienced a significant gain in forest cover from 2000 to 2010. Only .36% experienced a significant loss. As discussed in Chapter 6 with regard to the Republican era, this commitment to see a reforested China extends across the nation’s many climates and topographies. Jiang Hong has recently criticized the Great Green Wall project as ineffective in its attempts to afforest grasslands. In fact, reforesting rangeland has had a deleterious effect on local ecologies, precisely what the Great Green Wall project had

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1044 梁明武。明清時期木材商品經濟研究。北京：中國林業出版社，2012, p. 15.
been designed to avoid.\textsuperscript{1046} A study of southwestern China further supports this claim that today’s Chinese officials will carry out afforestation projects on unsuitable terrain.\textsuperscript{1047}

Jiang Hong’s argument that China should abandon the Great Green Wall program would be valid if its only goal were to repair damaged ecosystems. The \textit{China Daily} article cited above alludes to another purpose: to establish China as an “ecological civilization.”\textsuperscript{1048} The nature of this civilization is not only tied to air quality and carbon emissions, but also to the expansion of China’s forest cover. In other words, the state continues to see treeless landscapes as ecologically backward. The attempts to reforest challenging landscapes can thus be seen as attempts to bring them into the fold of twenty-first century ecological civilization. In so doing, Party officials draw upon a tradition of international ecological modernity adopted by Chinese states during the early twentieth century. China’s ecological postmodernity thus could not exist without the prior establishment of its ecological modernity.


\textsuperscript{1048} An.
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