Between the sixth and second centuries BCE, Chinese states developed offices to oversee the sustainable use of forest resources. This era, often cited as a period of rampant environmental degradation, also saw the emergence of a discourse of sustainability. The early philosopher texts criticized the environmental and moral degradation of their era in order to promote specific policy interventions. In response to the deforestation they depicted, moralist and pragmatist philosophers alike argued for regulations on land use as the basis of a sustainable political order. Early states used these ideas to justify state forestry, culminating in extensive forest bureaucracies under the Qin and Han empires in the second and third centuries. These forestry institutions were among the earliest in the world, preceding state forestry programs in Europe and Japan by nearly two millennia. Yet even at the early apex of state forestry, many thinkers criticized government regulation as immoral or ineffective and promoted the self-sufficient community as an alternative basis of conservation. These early texts were established as the core of the Chinese philosophical tradition, and their arguments for and against state
regulation became the basis of many later debates over sustainability and institutional forestry.

INTRODUCTION

In Europe, the development of professional forestry was closely tied to the emergence of awareness of the possibility of environmental degradation and to the rise of bureaucratic states. In renaissance Venice a highly sophisticated forest bureaucracy developed to manage limited timber resources for shipbuilding. This prefaced an early modern arms race in naval timber between Spain, Holland, England, and France. By the late sixteenth century, works of political philosophy linked declining forests to the plight of the nation, as in John Evelyn’s *Sylva* (1662), while growing state bureaucracies made concrete policy interventions like Colbert’s Forest Ordinance of 1669. In the eighteenth and nineteenth centuries, the search for timber turned to the colonies, where the rapid depletion of insular environments spurred the development of more clearly articulated environmental thought. Meanwhile, in the German states, forestry schools emphasizing sustainable yield developed the basis of modern forestry and environmental science. The Japanese experience was quite similar: the experience of wood shortage that paralleled the rise of bureaucratic states led to greater environmental awareness and the development of professional forestry.

China is generally portrayed as an exception, a case where the state was absent, ineffective, or actively anti-forest. In contrast to Europe and Japan, where the experience of deforestation spurred the development of forestry and conservation, China has been seen as a case of long-term progressive environmental destruction. Early environmental histories by Mark Elvin, Nicholas Menzies, and Richard Edmonds noted an awareness of anthropogenic environmental degradation by the fourth to sixth centuries BCE. But subsequent scholarship, including Elvin’s own later work, has tended to downplay attempts to limit or govern this destructive potential as either ineffective or driven by self-interest. World forest histories have largely accepted this impression, portraying early China as home to almost unchecked deforestation.

This picture overlooks the fact that the very writings that documented deforestation were also aimed at halting or reversing it. Several English-language volumes on ecology in Chinese philosophy have revealed that the Confucian and Daoist canons were full of environmental thought. Chinese scholars have also begun to reexamine antiquity for sources of environmental ethics. New developments in the history of early China must also shift our narrative. Recently
excavated sources have pushed back the horizons of Chinese environmental history and brought to light early laws governing natural resources.11 Other scholars have begun to use scientific data to question and contextualize the descriptions in classical texts.12 Still other scholars have reexamined the dating of these classical texts themselves.13 This article integrates these existing perspectives into a new synthesis: the early textual record is not just evidence of degradation; it also represents concerted attempts to promote conservationist policies.

Chinese thinkers developed both environmental awareness and conservation policies long before these emerged in the West due to China’s highly precocious state development and its early experience of deforestation. As in Europe and Japan, the emergence of a forestry program was tied to both of these trends that emerged in China nearly two millennia earlier than in either Europe or Japan. By the third century BCE, a wide range of philosophers debated the sustainability of contemporary land use while growing states implemented new environmental codes and forest bureaucracies, both based on more than three centuries of experience and precedent.

There is scattered evidence of forest management in the earliest recorded Chinese history, but it focused on hunting and transformation of the landscape into a tapestry of fields and woodlots rather than on the conservation of scarce resources. In the Spring and Autumn Period (771–476 BCE) and more markedly in the Warring States (475–221 BCE), the development of larger states and endemic warfare had a far greater impact on the environment than earlier settlements. A diverse range of thinkers emerged to comment on the discrepancy between the idealized environment of the classical period and the degradation of their contemporary environment. Deforestation in particular was seen to present both an ethical and a practical imperative to change the relationship between human institutions and their environments. In the late third century, the border state of Qin emerged as the victor of the Warring States, unifying China under strict laws and a centralized bureaucracy including a highly developed system of forest monopolies and land use regulations. The Qin Dynasty (221–206 BCE) and its successor the Han (206 BCE–220 CE) codified Warring States philosophy into three main schools—Legalism, Confucianism, and Daoism—each with its own environmental principles.

Legalists sought first and foremost to advance state power, and they saw laws and punishments as the best vehicle to do so; these laws included substantial regulation and monopolization of woodland and mountain resources to prevent scarcities from impacting the growth of the state. Legalist policies were ascendant under the Qin but largely rejected under later dynasties. Confucianism was grounded in the promotion of human morality. To some thinkers
this required strict regulations to prevent people from indulging their worst impulses; to others, excessive regulation interfered with the natural florescence of both human goodness and natural bounty. From the Han forward, the rejection of Legalism meant that political discourse on conservation centered on debates between the regulatory and antiregulatory camps within Confucianism. Daoism was a philosophy of quietism, calling for a return to simpler modes of interaction in human communities encompassed by trans-human nature. This philosophy ultimately coalesced around late Han communities that sought withdrawal from state sovereignty entirely.

Despite substantial differences in ethical principles, philosophers grouped under all three schools promoted protections for the nonhuman environment. These generally included taboos on sacred forests and seasonal restrictions on hunting, burning, and woodcutting. From the Spring and Autumn Period onward, governments dispatched specialized foresters to oversee these rules, culminating in centralized forestry regimes in the Qin and Han. While we might conclude that early Chinese environmental regulations were ineffective, we cannot ignore that they were widespread. Regulatory forestry may have been grounded more in self-interest than in an ethical concern for nonhuman life; it was nonetheless based in a clearly articulated philosophy of sustainable use. The classical canon retained currency for nearly two millennia after the fall of the Han in the second century CE, and these early discourses on sustainability were employed to debate forest policy for the rest of pre-modern Chinese history.

FORESTERS OF ANTIQUITY

In the earliest historical periods of China, the economy was largely based on alliances of self-sufficient territories. Royal authority was closely linked to agriculture and the royal prerogative to invest nobles with grants of land for clearance. In the Shang and early Zhou periods, there was little apparent wood scarcity and no mention of a restrictive forestry regime. Nonetheless, woodcraft was incorporated into the political tradition through hunting and the maintenance of wood coppice. This is significant because the textual tradition of high antiquity would become the basis for later positions on environmental regulation.

Hunting was almost certainly the earliest circumstance where a specialized role for forestry emerged. As in Europe, hunting was a key part of the construction of royal authority of the earliest Chinese states. The most important term for “forester” in China is the character 虞 that depicts a “humane tiger” or perhaps a man in a tiger mask (Figure 1). This term more readily translates in early uses as “master hunter,” as in the ode “Zouyu”: “He discharges [but] one
arrow at five wild boars/Ah! He is the Zouyu!"¹⁶ Master hunters like this “Zouyu” appear in the earliest historical record, the oracle bones, and hunters were among the specialists noted at the Shang and Zhou courts.

Forestry for fuel management may have emerged as a corollary to hunting. Evidence from the oracle bone inscriptions suggests that woods were burned to drive game for hunting.¹⁷ Indeed, the character for “burn”—fen —clearly depicts a wood on fire (Figure 2). But fire hunting was far from a reckless process. Stephen Pyne argues that almost all societies discover the importance of thinning woodland to control burns, what he terms a transition from control of ignition to control of fuel sources.¹⁸ The ode Huang yi describes precisely this processes of thinning and presents it as a key component of early statecraft:

[King Da] raised up and removed,
The dead trunks, and the fallen trees.
He dressed and regulated,
The bushy clumps, and the [tangled] rows.
He opened up and cleared,  
The tamarix trees, and the stave-trees.  
He hewed and thinned,  
The mountain-mulberry trees.  
...  
The God Di surveyed the hills,  
Where the oaks and elms were thinned,  
And paths made through the pines and cypresses.  
The God Di, who had raised the State, raised up a proper ruler for it...19

Scholars have often taken Huang yi as a depiction of wood clearance for farming, but it may be equally interpreted as a description of wood thinning for hunting. The use of fire in hunting is also mentioned in the ode “Great Shu Has Gone Hunting” (Da Shu yu tian).20 As Magnus Fiskesjö has argued, the clearance of land for farming was initially an attractive corollary to the use of fire to drive game rather than the primary purpose of burning.21 In addition to controlling the spread of fires, thinning would have also left more undergrowth for
grazing animals for the hunt. Thinning trees to manage burning, both for hunting and for agricultural clearance, was the likely point of transition of forestry from hunting to broader woodland management.

Royal interest in wood management may have originated from hunting, but it also involved the provision of firewood for settlements. Several odes draw a link between fuel supplies and the dignity of the king. This association is clear in “The Foothills of Han Mountain” (Han lu):

Thick grow the oaks and the yu trees,
Which the people use for fuel.
Easy and self-possessed was our prince,
Cheered and encouraged by the Spirits.22

As well as in “The Yu and Pu Trees” (Yu pu):

Abundant is the growth of the yu and the pu trees,
Supplying firewood; yea, stores of it.
Elegant and dignified was our prince and king;
On the right and the left they hastened to him.23

While there is no evidence of regulatory forestry in the early classics, the close link drawn between proper kingship and hunting, controlled burning, and adequate wood supplies opened the door to use the classics to argue for more extensive regulation of the environment.

With the expansion of early settlements, the limits of natural wealth gradually became apparent. The larger city-states of the Spring and Autumn Period (771–476 BCE) placed greater demands on their environments, creating both the impetus and the potential to develop forest offices. In 718 BCE, the annals of the eastern state of Lu noted, “the products of the mountain forests, streams and marshes … are overseen (shou) by officials, and not a matter for the lord himself” (若夫山林川澤之實 … 官司之守, 非君所及也).24 This is the first apparent evidence of forestry being regularized as an office, as opposed to a role delegated to a member of the nobility. Another record of Lu from the late seventh century notes that “foresters” (yu) were responsible for protecting young animals and plants from being killed in the spring and summer, the first apparent set of “seasonal regulations”:

In the mountains the sprouts growing from [coppiced] trunks were not to be chopped off. In the wetlands, it was forbidden to cut the tender sprouts. It was not allowed to take fish-spawn or hatchlings. Where deer were concerned, fawns were to be permitted to grow up. It was obligatory to
protect the fledglings and the eggs of birds... The teaching of ancient times is that all beings should propagate themselves in abundance.25

A similar set of wardens were mentioned in Lu in 522 BCE: “the timber in the mountain forests is overseen by warden of deer (heng lu) ... the firewood in the thickets is overseen by forester lords (yu hou)” (山林之木，衡鹿守之 ... 林之薪蒸，虞侯守之)26 The terms for “warden” or “forester” in both passages carry the root meaning of “hunter” seen in the Shang or early Zhou, but they now describe a more institutionalized form of forester tasked with controlling the extraction of timber and firewood and enforcing seasonal regulations against hunting.

Institutionalized forestry was prompted at least in part by the possibility of overextraction. In 524 BCE an official at the Zhou court in central China contrasted the bounty of wood described in “The Foothills of Han Mountain” with the potential for wood shortage in the present time: “If it should happen that the forests of the mountains are exhausted, and that only scattered remnants remain of the forests of the foothills ... the forces of the people will be weakened ... and they will lack resources.”27 The “Foothills of Han Mountain” had described a bounty of wood as evidence of good rule; this official now argued that the converse—deforestation—was evidence of poor rule. Under the threat of excessive clearance, old texts promoting positive transformation of the woods were reinterpreted as justification for negative regulation of the forests.

WARRING STATES PHILOSOPHY

The city-states of the Spring and Autumn Period gradually grew in power and autonomy. The Warring States era (475–221 BCE) was characterized by extensive warfare and the advent of centralized bureaucracies and regular taxation.28 These “warring states” made greater demands on the natural landscape. In particular, the period evidenced growing deforestation in the states of central and eastern China. In this environment many philosophers explicitly contrasted their present with an idealized antiquity and tied the negative experience of deforestation to poor government or perverted morals. Many suggested policies to promote a more verdant, more ethical society.

The Mozi (early fourth century BCE) was among the first philosophical works to comment on the destructive tendencies of the Warring States era and to explicitly present deforestation as the outcome of bad government. Mozi’s philosophy was essentially utilitarian, arguing that good rulers should promote a wealthy court and society, in part by taxing and regulating woodland.29 Conversely, Mozi argued that bad rulers could be identified because they “cut down the grain fields and felled the trees and woods” through their destructive
warfare, harming both agrarian and nonagrarian sources of livelihood. To Mozi a landscape rich in trees, like a landscape rich in crops, was both the outcome and the measure of good statecraft.

Mozi’s later contemporary, Shang Yang (390–338 BCE), proposed an essentially amoral will-to-power ideology; he argued, “The means whereby a country is made prosperous are agriculture and war.” Lord Shang offered a number of ways to force people to clear more farms including the monopolization of nonagrarian land: “If mountains and marshes are brought into one hand, then the people who hate agriculture, the tardy and lazy and those who desire double profit, will have no means of subsistence. This being so, they will certainly become farmers, and so it is certain wastelands will be brought under cultivation.” Monopolies on the “mountains and marshes” (shanze) were intended to force the populace out of the woods and into the fields, to cultivate the maximum possible area, provide soldiers, and feed the military. Yet Lord Shang made clear the perils of excessive clearance, writing that “a condition where the territory is not sufficient to support the population is still worse than that where ... the population is insufficient to fill the territory.” Lord Shang also saw the need to prevent wood scarcity by ensuring that the forests were “sufficient to provide profit.” He argued that if a tenth of the territory was forested, that would suffice to provide the necessary resources. In his amoral philosophy, woodland preservation was not justified for the benefit of the people but because the state needed its resources to wage war.

The *Mencius* (late fourth century BCE) was the first core text in the Confucian tradition to comment on land use. Mencius explicitly opposed the trend toward state centralization and argued for a minimal government that enabled the people to express their inner goodness. His proposal for sustainable land use was grounded in similar ideals: “If the seasons of husbandry are not violated, there will be more grain than can be eaten. If close nets are not allowed to enter the pools and ponds, there will be more fishes and turtles than can be consumed. If the axes and bills enter the hills and forests only at the proper time, there will be more wood than can be used.” Mencius went on to clarify that people with adequate means of subsistence would manifest their natural goodness. Good governance therefore consisted of the barest of environmental regulations to ensure that people could provide for their own livelihood, which was in turn the root of morality. Like Mozi, Mencius argued that poor governance could also be clearly identified by its environmental outcomes: “The trees of Ox Mountain were once beautiful. Being situated, however, in the borders of a large state, they were hewn down with axes and bills ... when people now see it, they think it was never finely wooded. But is this the nature of the mountain?” This passage makes an analogy between the mountain, naturally wooded, now stripped of
vegetation, and the person, naturally good, but who could be stripped of goodness. To Mencius, bad government could be identified by its pernicious effects on both the natural wealth of the environment and the natural goodness of people. He suggested that people and their environments would both thrive if rulers merely removed negative influences and allowed them to govern themselves.

Xunzi, a rival to Mencius in early Confucian thought, agreed on the goal of promoting morality but disagreed on human nature. Xunzi argued that people were naturally evil and that strong state institutions were needed to bring out goodness in them. He presented markedly similar visions of wood regulation to Mencius, but his contrasting judgment on human nature led him to place these regulations in the hands of a regulatory state rather than self-sufficient communities. Yet there were limits to Xunzi’s statist inclinations, and he opposed the trend toward taxation of woods and wetlands promoted by Mozi and Lord Shang. In Xunzi’s ideal state, “there are seasonal restrictions on access to mountains, forests, wetlands, and weirs, but their proceeds are not taxed.” Similar positions merging the Confucian emphasis on morality with the pragmatism of Mozi or Lord Shang to argue for regulation of forests appeared in early chapters of the Guanzi, a rather heterogeneous collection of essays attributed to the seventh-century statesman Guan Zhong.

Other Warring States philosophers rejected the prospect of government entirely, arguing for a natural, fluid relation between humans and their environments. The highly relativist Zhuangzi rejected both anthropocentric and statist notions of the world. One Zhuangzi essay questioned the presupposition that men are superior to loaches or monkeys. Another essay compared government through regulations to “trying to walk on the ocean, to drill through a river, or to make a mosquito shoulder a mountain.” The Dao De Jing, a collection of aphorisms attributed to the sage Laozi, argued that the best kind of ruler governs without rules, allowing things to come naturally to completion. Neither of these texts reacted explicitly to the threat of deforestation, nor did they present specific guidelines for environmental governance. But these thinkers demonstrated a clear third perspective placing humanity within a broader nature and questioning arbitrary standards of effectiveness or morality.

FOREST REGULATIONS

Despite marked differences in ethical principles, Warring States philosophers largely agreed on the perils of deforestation and the need to regulate woodland. For the most part they even agreed on specific regulations: protection of sacred groves and seasonal regulations on the use of all woodland. Some of the more statist
philosopher texts, the *Mozi*, *Xunzi*, and *Guanzi*, also proposed offices to oversee these rules. This degree of agreement between such diverse texts suggests that they were commenting on the suitability of contemporary policies, the outgrowth of regulatory institutions first seen in the Spring and Autumn Period.

Protected woods probably predated written history in China, but they were first clearly referenced in Warring States texts. Woods were protected as sacred in two contexts: ancient trees known as “field lords” (*tianzhu* 田主) that represented the gods of agriculture, and tomb trees guarding the spirits of ancestors. Trees seen as the keystone species in their localities were selected to serve as altars to the spirits of grain and soil. Mozi wrote that the ancient sage kings “would pick out the luxuriant and elegant among the trees to plant in the temple of agriculture.” Zhuangzi describes “an oak tree, which was used as the altar for the spirits of the land [that] was so large that an ox standing behind it could not be seen.” The *Rites of Zhou* suggested that each region select a tree thought to be most representative of its environment, whereupon “both the altar and the surrounding countryside would be known by the name of this tree” (各以其野之所宜木，遂以其社與其野). It enumerated multiple offices involved in overseeing these trees including foresters (*shanyu*), the Grand Minister of Rites, and the Grand Minister of Music. Several of these texts suggested that the destruction of altar trees either caused or was a consequence of poor government that brought disaster on the people. While the specifics differed, these texts from a diverse range of traditions all comment on a shared phenomenon: the veneration and protection of large ancient trees as the spirits of the land.

Trees, especially evergreens, were also used on monuments to the dead, perhaps as guardians or hosts for their spirits. The *Annals of Lu Buwei* recorded that ancient tombs were mounded “tall like mountains, and planted with groves of trees,” a detail also noted in the *Records of Ritual*. According to other texts, the rank of the entombed person determined the size of his tumulus and specified the type of tree planted on it. As with the gods of agriculture, the ritual importance of grave trees led to taboos and offices to protect them. The *Rites of Zhou* lists two offices tasked with restricting tombs, and the *Records of Ritual* notes that “the gentleman ... will not cut down the trees on grave-mounds.” The sacred nature of these trees rendered them inappropriate for more ordinary use and made their destruction a particularly heinous crime.

Many Warring States texts called for seasonal restrictions on the use of woodland. The earliest such record appears to be the sixth-century passage from the *Annals of Lu* just quoted. The *Mencius* passage is the most famous example of the principle that limiting the seasons of harvest would lead to abundance, yet a nearly identical
phrase appears in the *Xunzi* as well. Other, more detailed seasonal regulations began to appear in the mid-third century BCE, in texts like the *Annals of Lü Buwei* and the *Guanzi*. Throughout these regulations we can see a consistent treatment of forestry: restrictions on hunting and woodcutting in the spring, care over the use of fire in the summer, provisions for the royal hunt and charcoal burning in the late autumn, and oversight of commoners’ hunting and woodcutting in the winter. Foresters’ years were roughly split between the spring and summer, when they were largely involved in protecting wood, crops, and game; and the fall and winter, when they were principally involved in overseeing the hunt and the wood harvest. This suggests an overlap, both spatial and occupational, between farming and hunting and a role for foresters in generalized environmental oversight.

**BUREAUCRATIC FORESTRY**

The pervasive appearance of scared grove taboos and seasonal regulations suggests that these were grassroots principles adopted into diverse land ethics. It is also apparent that contemporary states created forest bureaucracies to implement these regulations. Evidence of state forestry begins with Lu in the Spring and Autumn Period, but it is strongest for two powerful Warring States: Qi in the east and Qin in the west. Seasonal regulations and fairly extensive justifications for state forestry appear in two texts that were likely compiled in Qi: the *Xunzi* and the early chapters of the *Guanzi*. These texts also describe similar roles for foresters in their lists of high officials. While this evidence is indirect, it appears that Qi continued to develop modes of forestry first evident in Lu, another eastern state.

If the evidence for state forestry in Qi is circumstantial, the evidence for Qin is undeniable. Shang Yang, who wrote the first description of state forest monopolies, was chancellor of Qin in the fifth century. Lü Buwei, who recorded extensive seasonal regulations in his *Annals*, was a Qin official in the early third century. Recently excavated texts from Qin tombs in Hubei reveal that the Qin state attempted to implement Lü’s seasonal rules almost verbatim. For example, it prohibited most forms of hunting and wood use until the end of summer: “In the second month of spring one should not venture to cut timber in the forests or block water courses. Except in the months of summer one should not venture to burn weeds to make ashes, to collect [indigo], young animals, eggs or fledglings. One should not ... poison fish or tortoises or arrange pitfalls and nets. By the seventh month (these prohibitions) are lifted.” Other evidence suggests that the Qin state established Lord Shang’s forest monopolies as well. Two maps excavated from Gansu may be depictions of
state lumber colonies in preconquest Qin (ca. 300–239 BCE); their presence in the far northwest suggests that lumber was harvested there and shipped downriver to the larger settlements of the Qin heartland.56 A partial copy of Qin laws includes provisions for strict oversight of state-controlled lacquer plantations and mines (which would have included substantial woodland to provide fuel for smelting). In each case there are fines or other punishments for inferior or insufficient production.57 One of the main forms of penal labor in the Qin was “[gathering] firewood for the spirits” (gui xin 鬼薪), a term that suggests justifications in pre-Qin ritual but almost certainly implied cutting fuel for state iron smelters.58

The Qin state also left the most extensive descriptions and justifications of state forestry in the Rites of Zhou, a text that purports to describe the offices of the early classical period but was probably compiled in the third century at the Qin court. It consists of little more than a list of government offices, both description and justification for state centralization.59 The Rites of Zhou lists foresters among the officials responsible for overseeing the royal domain.60 It enumerates a host of other offices responsible for wood-related tasks: provisioners to supply fuel and livestock for sacrifices and feasts, “horn and ivory men,” “bird-plume men,” managers of reeds and dyes, lime- and charcoal-burners, and craftsmen responsible for making any wooden products required by the state.61 Most significantly, the Rites of Zhou presents two major offices responsible for regulating forests outside of the capital region and for overseeing many of these lower offices:

Mountain Foresters: Manage the regulations for mountain forests. Delineate the various products [of the mountain forests] and conserve them with regulations. South-side timber can be cut in midwinter; north-side timber can be cut in midsummer. For making wheels and hoes cut young timber appropriate to the season. When the common people have occasion to cut timber, they should be given a fixed date. When state workers enter the forest to remove timber, do not restrict their access. [For these purposes] woodcutting in the spring and fall is not restricted. If there is theft [i.e. cutting at inappropriate times], it is to be punished or fined. At the sacrifices to the gods of mountain forests, prepare [the altars] on behalf of the lord and clear the way for his visit. When there are great hunts, prepare the mountains and fields by clearing the underbrush, restrict access to the fields by planting the banner of the Forester at the center, drive the beasts, and collect trophies [to count the game and assign rewards].
Here we can see a culmination of earlier trends toward institutionalized forestry. Qin foresters oversaw the seasonal regulation of hunting, fire management, and woodcutting; the protection and veneration of sacred forests; and the collection of levies on wood products. Under the direction of Foresters, lower-ranked Wardens enforced regulations and conducted surveys to count the number of timber trees. The description of Wardens’ tasks suggests that the Qin had rewards and punishments for timber production much like those described for lacquer plantations in the excavated field laws. Whether or not the vision of centralized government depicted in the *Rites of Zhou* was ever fully implemented, it is clear from both received and excavated evidence that the Qin envisioned the most extensive forestry bureaucracy China had seen to that point in history. Indeed, Brian Lander argues that Qin power was based in no small part in their monopolization of forests and mines, providing the advantage needed to unify the Warring States into a single Qin empire in 221 BCE.63

**THE HAN SYNTHESIS**

If extensive monopolies were the source of Qin successes, they were also the roots of the dynasty’s rapid downfall. In 206 BCE the Qin was overthrown by rebellion against its strict laws and high taxes and replaced by the Han, a unified state that lasted for more than four centuries. The early Han rulers rolled back the harsh taxes and regulations inherited from the Qin including a “relaxation of the monopolies on mountains and marshes” (弛山澤之禁).64 Yet in the late second century, an expansionary Han state learned the value of forest and mine monopolies. In 115 BCE Emperor Wu created the office of chief commandant of Waters and Parks, and he placed the office in charge of the imperial parks and their revenues. Shanglin Park, the center of the Waters and Parks administration, was itself a massive complex
encompassing two entire counties, and it included an arboretum, animal menagerie, and hunting reserve with a large staff of soldier and convict laborers.65 Shanglin Park later became the center of state-controlled mining and minting as well.66 The Han forest administration learned from the Qin the benefits of monopolizing woodland. A late second-century addition, the Guanzi echoes the ideas promoted by Lord Shang: “There should be no place for people to look for materials to make houses and buildings, tools and implements, aside from state controlled mountains. Thereafter, my lord, you should institute three classes of user fees for mountains, one for firewood, one for building timber, and a third for coffin material.”67 By enclosing large landholdings in the populous capital region, the Han Waters and Parks administration was able to profit substantially from demands for wood and other products. Because the administration centralized the oversight of forested land, it may have also been the site of substantial knowledge production. One late second-century essay suggested rewards for those who are skilled in planting trees; another noted in great detail the best trees to plant on various types of land.68 While there is no direct link between these proposals and the Waters and Parks administration, it appears likely that the late second-century Guanzi essays incorporated expertise produced by the centralized forest administration, with Shanglin Park playing a similar role in knowledge production to the German forestry schools or the British and Dutch botanical gardens.

Like the Qin, the Han state used, or invented, “ancient” rituals venerating mountains as an excuse to monopolize forests and mineral wealth. A second-century Guanzi essay describing these monopolies may have reflected real proposals from Emperor Wu’s time:

If a mountain reveals its riches, the prince should take care to seal it off and conduct sacrifices to it. At a distance of ten li (approximately five kilometers) from the sealed-off site, he should establish a sacrificial altar. On reaching this place, those who are riding should be required to dismount and walk, and those who are walking should be required to quicken their steps. Those who violate these orders should be sentenced to death with no pardon. In this way, they will be kept far away from any opportunity to exploit the mountain’s wealth.69

In principle, this proposal justified state monopolies on an area of approximately 80 square kilometers around each mountain that "revealed its riches" (i.e., where mineral veins were discovered). Much of this land would have been used to grow wood to fuel the on-site smelting of metal ore. Yet while many second-century Guanzi essays emphasized the importance of state control of wood and
mineral wealth, they demonstrated key developments since the Qin in how monopolies were actually implemented. Rather than seeking to directly manage woods and mines, these essays warned the ruler against excessive extraction, especially forced labor levies. One essayist wrote, “if you send prisoners and slaves [to mine and cut wood], they will flee and there will be no way to control them. If you send ordinary people, then your subjects will resent their lord on high.” Instead he argued, “The best thing is for [the state] to let the people do it.” He suggested that the state issue licenses and charge fees for the exploitation of forests and mines, transferring the tax burden from the critical agrarian base onto the reviled merchant class. Under Emperor Wu the Han learned both positive and negative lessons from the Qin: on the one hand, the state recognized the power of monopolistic control of forests and mines; on the other hand, it knew the hazards of overtaxing the peasantry and upsetting the heavily Confucian bureaucracy.

While the Han produced less original thought than the Warring States, it was nonetheless a critical period in the formation of Chinese philosophy through compilation and commentary on earlier works. Around the time of Emperor Wu’s expansionary statecraft, the diverse philosophical programs of the Warring States began to be codified into discrete Confucian, Legalist, and Daoist schools. While self-identified Confucians (ru), including Mencius and Xunzi, predated the Han, the “Legalist” and “Daoist” monikers were essentially products of Han archivists’ attempts to classify rival ideas. The categories first appeared in an essay by Sima Tan, included in his son Sima Qian’s seminal first-century BCE Records of the Grand Historian. Later that century, another father-son team, Liu Xiang and Liu Xin, integrated these categories into the bibliographic system of the Han library. Now Laozi and Zhuangzi were clearly defined as “Daoist” and Lord Shang as “Legalist.” Mozi was placed in his own school; syncretic texts including the Guanzi and the Annals of Lü Buwei remained harder to classify. But despite a handful of difficult cases, the majority of Warring States philosophies encompassing many disparate thinkers were grouped as either “Confucian,” “Legalist,” or “Daoist.”

Even as earlier philosophies were compiled into discrete canons, policy positions on environmental regulation continued to evolve. This is most evident in a series of debates around Emperor Wu’s forest and mining monopolies, recorded in the postmortem Discourses on Salt and Iron. The two sides in this debate brought into clear focus the positions that synthesized and reinterpreted Warring States philosophy into two discrete schools. By the mid-Han, association with the Qin Dynasty had poisoned most “Legalist” texts, and Mozi’s philosophy was essentially dead as a political force. When the government wanted to argue for a regulatory state, it deployed the most statis of
the classics, the *Documents* and *Rites of Zhou*, as well as the hard-to-classify *Guanzi*. Conversely, the Confucian interlocutors widely quoted the *Mencius* to argue against excessive state intervention.”

In later eras the arguments of the government and opposition recorded in the *Discourses on Salt and Iron* were used to argue for similar policy positions. For a brief period in the first century CE, Wang Mang (r. 9–23) attempted to revive a literalist interpretation of the *Rites of Zhou*, and therefore a set of policies much like the Qin; this included a prominent position for Foresters (*yu*) within an extensive tax and regulatory state. Following the Han restoration in the year 23, state-imposed regulations and monopolies were again maligned by court Confucians. Another great Han historian, Ban Gu, demonized the regulatory policies of the Qin Dynasty, Emperor Wu, and Wang Mang as fundamentally similar and therefore “Legalist.” Ban Gu quoted heavily from the *Mencius*, criticizing anything that deemphasized agriculture as the fundamental occupation including both private merchants and government monopolies.

The late Han also saw the full realization of “Daoist” land use policies through the formation of the first self-consciously Daoist social movements. In the third century CE, the Taiping Daoist sect recorded a list of commandments attributed to the deified Laozi. Many of these rules were comparable to other restrictions on excessive hunting, burning, or woodcutting implemented by states since the sixth century. They included prohibitions on “burning fields or mountain forests,” “cutting trees without good reason,” or “robbing birds’ nests of their eggs”—all provisions seen in seasonal regulations from the *Annals of Lu* through the Qin field laws. But the Daoist commandments also demonstrated a much higher degree of respect for nonhuman life than typified either Confucian or Legalist thought including injunctions against “injuring or killing any living being,” abortion, suicide, and even “wantonly picking herbs or flowers.” The Daoists also actively rejected states and other sources of authority, an opposition that went far beyond the court Confucian response to excessive taxation and regulation. Instead the Taiping Daoists were not to “seek knowledge of military or political matters” or frequent the imperial court; nor were they to engage actively in commerce. The Taiping and other Daoist movements created clear sets of ideals that drew on the abstract relativism and quietism of the *Zhuangzi* and *Dao De Jing*, principles that rejected state authority and professed respect and protection for the land and its creatures.

**CONCLUSION**

Whether prompted by ideals of self-regulation, state authority, or quietism, these conservationist positions persisted in later imperial
history, now largely defined into the three schools of Legalism, Confucianism, and Daoism. The inclusion of seasonal regulations and ritual taboos in all three major schools suggests that these provisions reflected pervasive forms of environmental governance used by states and non-state communities alike. In the meantime, the trends of deforestation and state formation that led to the emergence of these policies did not go away. People of later eras also faced the threats of over- and underregulation, both of which could lead to wood shortages and environmental degradation. Like the Qin and Han, later states enclosed land for parks, charged fees for the use of state forests, and requisitioned large amounts of timber; they often referenced the *Rites of Zhou* and the *Guanzi* to justify these interventions as pragmatic. Others were quick to demonize environmental regulation, and especially forest monopolies, as “Legalist”; quoting Mencius or Ban Gu, they argued that state interference destroyed the innate morality of farming communities and wasted the natural bounty of the environment. Still others reached into the Daoist canon to argue against human interference in the landscape as both ineffective and immoral.  

The early history of forestry in China shows that we should not assume a climax theory of institutional succession any more than we assume a climax theory of ecological succession. Highly centralized state regulation is no more the peak form of forestry than old-growth forest is the apex of woodland development. Far earlier than Europe or Japan, China experienced deforestation, and in response it developed highly institutionalized, bureaucratized forms of forest regulation and oversight. Yet from the outset some Chinese policymakers opposed bureaucratic forestry. By the first century CE, policy arguments could call on centuries of precedent to argue both for and against state intervention into the nonagrarian environment.

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**Notes**

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and James McRae, eds., *Environmental Philosophy in Asian Traditions of Thought* (Albany: SUNY Press, 2014), Section II, “Environmental Philosophy in Chinese Traditions of Thought.”

10. See, for example, Junhua Ren and Xiaohua Liu, *Huanjing lunli de wenhua chan-shi: Zhongguo gudai shengtai zhiui tankao* [A Cultural Explanation of Environmental Ethics: Explorations in Ancient Chinese Ecological Wisdom] (Changsha: Hunan shifan daxue chuban she, 2004); Zhengong She, *Zhongguo shengtai lunli chuantong de quanshi yu chongjian* [Explication and revision of China’s traditional ecological ethics] (Beijing: Renmin chuban she, 2002).


15. The character bears clear resemblance to a humanoid figure wearing a mask. The “humane tiger” etymology is given in the *Shuowen jiezi* [Dictionary of Word Origins], the earliest dictionary to give word origins. *Shuowen jiezi* 6.3092. Unless otherwise noted, all early Chinese sources are based on the Chinese Text Project, ed. Donald Sturgeon (2006–16), http://ctext.org. Primary sources are cited by the name of the work, name of the chapter, and passage number.


17. Fiskesjö, “Rising from Blood-Stained Fields,” 106, 117. Fiskesjö claims that it did not originally apply to swidden, although the two may not have been mutually exclusive. See Fiskesjö, 117, note 347.


enthusiasm for destruction.” Elvin, *Retreat of the Elephants*, 42–43. I believe this is contrary to the commentarial tradition and an interpretive stretch.


44. *Rites of Zhou*, “Di guan” [Offices of Earth], 59–61. My translation. We must be careful about the idea that the *Rites of Zhou* represents Zhou institutions. It was more likely compiled by the Qin state on the eve of its conquest, as both a retrospective on Warring States institutions and a justification for Qin state centralization.
46. The *Documents* chapter, “The Metal-Bound Coffer,” describes disaster resulting from the banishment of the Duke of Zhou, resulting in the uprooting of great trees. When the duke is restored, he replants the trees and good years result. *Documents*, “Metal-bound Coffer,” 2. The *Mozi* passage is quoted above. See also *Book of Rites*, “Jiao te sheng,” 22, which notes that the altars were gathering points for *yin qi* that could be translated literally as “shade,” but that they were open to the air.
49. Pine (*song*) for kings, cypress (*bai*) for titled nobles (*zhuhou*), *luan* for mid-rank nobles (*daifu*), and pagoda trees (*huai*) for lower nobles (*shi*); commoners were not allowed tomb mounds, but their graves were still planted with willows (*yangliu*). *Baihu tong*, “Beng zang,” 25.
50. The *Rites of Zhou* lists two officials responsible for the graves of nobles: one for the royal domain, one for outlying domains; each is responsible for some form of “restriction” (*jin*). *Rites of Zhou*, “Chunguan,” 12, 91, 96–98. On the taboo on cutting grave trees, see *Liji*, “Quli,” 88.
52. See Ricket, *Guanzi I*.
53. Ibid., 3.
56. Lander, *Environmental Change and the Rise of the Qin Empire*, 345–48; He Shuangquan, “Tianshui Fangmatan Qin mu chutu ditu chutan” [Preliminary discussion of the maps unearthed at a Qin grave at Fangmatan, Tianshui], *Wenwu* 2 (1989); Mei-Ling Hsu, “The Qin Maps: A Clue to Later Chinese...
Cartographic Development," *Imago Mundi* 45 (1993); Wang Zijin and Li Si, "Fangmatan Qin ditu linye jiaotong shihiao yanjiu" [Qin maps from Fangmatan as sources for researching the history of forestry and transportation], *Zhongguo lishi dili luncong* 28, no. 2 (2013).


62. *Rites of Zhou*, “Di guan,” 151–52. My translation. Where the original text is unclear I have made parenthetical clarifications based on the *Zhouli zhushu* [Collected commentaries on the Rites of Zhou], 16.57–80. Note that this is a rather difficult text, and the commentarial tradition is divided on several issues, in which cases I have used my best judgment.


64. *Shizhi leizhuan*, 12, Records of the Grand Historian (Shiji).


68. Rickett, *Guanzi II*, 401, 254 ff., respectively.

69. Rickett, *Guanzi II*, 423. This policy is referenced again on p. 444. Another passage from this Guanzi chapter is referenced by the Lord Grand Secretary in the *Discourses on Salt and Iron*, suggesting that this reasoning was actually employed in the arguments in favor of Emperor Wu’s monopolies. The treatment in the *Records of the Grand Historian* is both more extensive and more circumspect. In this telling, Emperor Wu’s advisers do suggest that the sage kings used metals from the sacred mountains to cast ritual vessels, and also that the ancient sacrifices to the sacred mountains be revived, but the passage does not draw the connection between state ritual and enclosing the mountains to monopolize their resources for the state. See Burton Watson, trans., *Records of the Grand Historian of China*, vol. 2 (New York: Columbia University Press, 1977), 33–37.

70. Rickett, *Guanzi II*, 467, 469.

72. The *Guanzi* was not initially included in Sima Tan’s essay. In the *History of the Former Han Dynasty* (*Han shu*), it is classified as “Daoist,” but from the Sui Dynasty (sixth century CE) onward, it was classified as “Legalist.” Rickett, *Guanzi I*, 3, note 3. The *Annals of Lü Buwei* is usually considered “miscellaneous.”


75. Dubs, *History of the Former Han* 4, 95, note 12.

