INTRODUCTION

Most environmental problems have roots in human relationships and are ultimately social, political, and cultural problems. Not all environmental degradation is human-induced: natural processes such as floods and droughts can also reduce the earth's productivity, and nonhuman species also alter and transform ecosystems. However, we human beings are far more effective than other species in altering our environments in an effort to satisfy our needs, and our very success often makes us a danger to others and to ourselves. Unlike other species, moreover, we make conscious, contestable choices about how resources are used, who uses them, and how we understand ourselves in relation to nature.

Maoist China provides an example of extreme human interference in the natural world in an era in which human relationships were also unusually distorted. The period illustrates the relationship between political repression and environmental degradation, demonstrating the tragedy of this interface under extreme conditions. The environmental dynamics of the period suggest a congruence between violence among human beings and violence by humans toward the nonhuman world. When the Chinese people mistreated each other through suppression of intellectual freedoms, tyrannical utopianism, political labeling, ostracism, punishment, terror, and forcible relocations, they also treated nature badly.

The political dynamics of the Mao period as they affected nature are complex, however; they do not simply involve coercion of political victims from among the urban intellectual or Communist elite. The degradation of the natural world in revolutionary China cannot be divorced from the often willing participation of millions of Chinese

people, at all levels of society, whose traditional culture played a critical role in suppressing dissent and in promoting overambitious development projects. Confucian culture fostered obedience to superiors and a limited capacity on the part of both leaders and ordinary people to resist Mao's destructive utopian schemes; it thereby established a foundation for revolutionary excesses. On the other hand, traditional rural customs involved numerous sustainable practices of tilling, water control, nomadic use of grasslands, and sequential harvesting of forest products; local farmers were loath to relinquish these practices when imported "scientific" theories or revolutionary fervor held sway. While local values, knowledge, and practices ought not to be demonized or romanticized, their importance cannot be ignored; they made an important contribution to complicity in, and resistance to, Maoist development projects.

Few social experiments in history have had the scope and penetration of Chinese socialism. From 1949, when the Chinese Communist Party defeated the Guomindang, to 1976, when Mao died, Mao and the Communist Party sought to reengineer Chinese society by remolding human nature. Less well known is their effort to reshape the nonhuman world, with severe consequences both for human beings and for the natural environment. Numerous campaigns suppressed elite scientific knowledge and traditional grass-roots practices concerning the physical world, stifling dissent through political labels, ostracism, and labor camp sentences. In the early 1950s, Soviet-style plans for rapid development of heavy industry started the country down a path of environmental problems. By the late 1950s, Mao was repudiating economists' warnings of the dangers of overpopulation and exhorting the Chinese people to bear children so that, by dint of sheer numbers, they could increase production and withstand Western and Soviet threats. He thus created conditions for later coercive birth control policies and intensified struggles over land and resources. The 1958–60 Great Leap Forward raised farmers' hopes for national transformation through rapid industrialization of rural areas. Despite limited success in small-scale water conservancy and irrigation projects, the Leap failed to reach its goals, decimated China's forests, and caused widespread starvation. "Red experts" were in control, and the labors of rural "armies" were put at the service of utopian projects. Huge hydropower projects removed millions from their

homes but were useless or caused disastrous floods when poorly constructed dams broke.

During the Cultural Revolution, projects and campaigns affecting the environment were driven less by utopianism than by coercion and chaos. Centrally launched earth-transforming campaigns such as "In Agriculture, Learn from Dazhai" (the model agricultural production brigade) were applied nationwide, with scant consideration for local topography and climate. Mao's parable of imperialism and feudalism, "The Foolish Old Man Who Removed the Mountains," a tale about the effectiveness of concerted manual labor, was required memorization; it exhorted the people to reshape the physical world radically, one bucket at a time. In the leadership vacuum that followed Red Guard attacks on Party officials, natural resources became fair game for all. Involuntarily resettled into wilderness and sparsely populated areas, disoriented urban relocatees were induced to carry out reclamation activities that often degraded land toward which they had little sense of connection or stewardship. Trained scientists who uttered words of dissent or caution were often exiled or persecuted to death. Class struggle, which created such adversity in human relationships, thus also created severe environmental damage. The state's battle against individualism, feudalism, capitalism, and revisionism was also a battle against nature.

The Maoist adversarial stance toward the natural world is an extreme case of the modernist conception of humans as fundamentally distinct and separate from nature. If it is true, as some environmentalists argue, that a core cause of contemporary environmental problems is the human failure to see ourselves as part of nature, seeing nature rather as something external to be harnessed or overcome, then this period provides a significant warning about the dangers of such schismatic views and the policies they generate.[2]

Mao's voluntarist philosophy held that through concentrated exertion of human will and energy, material conditions could be altered and all difficulties overcome in the struggle to achieve a socialist utopia.[3] In concert with the militarization of other aspects of life, Maoist ideology pitted the people against the natural environment in a fierce struggle. To conquer nature, the power of ideas was unleashed through mass mobilization in political campaigns, often accompanied by the use of military imagery. Official discourse was filled with references to a "war

against nature." Nature was to be "conquered." Wheat was to be sown by "shock attack." "Shock troops" reclaimed the grasslands. "Victories" were won against flood and drought. Insects, rodents, and sparrows were "wiped out." This polarizing, adversarial language captures the core dynamic of environmental degradation of the era. The metaphor of a "war against nature" thus provides a compelling image for understanding human attitudes and behavior toward the environment in China during the Mao years. While this metaphor has characterized the human effort to dominate nature in other cases (such as the conquest of the American West, when the Army Corps of Engineers tried to "rationalize" the great rivers), the Chinese case involves a deprivation of human volition that makes it one of the most extreme cases of its kind.

The Mao era was nearly three decades long; China is vast and variegated, and its human population huge. As a means of explaining the dynamics of anthropogenic environmental degradation for such a great time span, space, and populace, four core themes can be used as analytical tools and organizing devices. They are: (1) *political repression,* including the repression of intellectuals, scientists, officials, and ordinary people who dissented from the Maoist vision of how humans should treat the natural environment; (2) *utopian urgency,* initiated by Mao and adopted by local leaders and peasants, to remold the landscape quickly and achieve socialism; (3) *dogmatic uniformity,* or imposition of "one-knife-cuts-all" [*yi dao qie*] models that ignored regional geographic variations and local practices toward nature; and (4) *state-ordered relocations,* or reconfigurations of society by administrative fiat, particularly those that sent people into "wasteland" areas in concentrated efforts to convert land into farmland, enhance military defense, and bolster national security by increasing the percentage of Han Chinese in minority areas. These characteristics and their environmental impacts, chronologically represented through a focus on successive political campaigns, provide the analytical and narrative structure for this book. Each of the coming chapters emphasizes one theme and one destructive political campaign. It should be noted, however, that the themes occur throughout the Mao period, with varying prominence, as will become clear.

Focusing on the theme of *political repression,* Chapter 1 treats the 1957 Anti-rightist movement and the political persecution of two distinguished thinkers, economist and Beijing University president Ma Yinchu, who warned China's top leadership about the country's

population growth, and hydro-engineer Huang Wanli, who cautioned against a Soviet-influenced plan to dam the main stream of the Yellow River. Chapter 2 discusses *urgency to achieve utopian socialism* in connection with the 1958–60 Great Leap Forward, when the demand for fuel for "backyard furnaces" caused massive deforestation and Soviet-influenced agricultural schemes impoverished the land, resulting in the greatest human-created famine in history. *Dogmatic uniformity,* or central planning that ignored regional variation and local practices, provides the focus for Chapter 3, describing the misapplication of the Dazhai model during the early years of the Cultural Revolution, the lake in-filling, deforestation, and erosion resulting therefrom, and the human suffering created when the Chinese people were asked to emulate the ambitious projects described in Mao's essay, "The Foolish Old Man Who Removed the Mountains." Chapter 4 discusses the *state-ordered relocations* of the war preparation campaign of the late 1960s and early 1970s, when strategic industries were transferred by administrative fiat to the interior to form a defensive "Third Front" against the American "imperialists" and Russian "revisionists," and millions of "educated youth" were sent to the countryside and frontiers. This phase represents the climactic expression of Mao's war against nature, both literally and metaphorically, as all China came to resemble an army in a state of military alert, and the cult of the People's Liberation Army and Marshal Lin Biao, who was then Mao's designated successor, reached its height.

Military images – discipline, mobilization, regimentation, attack, and redeployment – carry the theme of the "war against nature" into the narrative. Social reorganization along military lines fueled much of the Mao-era drive to realize utopian socialism. With varying degrees of intensity, people were made to work collectively, eat in public dining halls, and sleep in dormitories. Civilians were often organized into detachments, regiments, platoons, brigades, and teams; even nonmilitary leaders were sometimes referred to as commanders, colonels, and lieutenants. During the Cultural Revolution, civilians and soldiers alike often wore olive green military uniforms. Both radical activists and political victims were induced to "volunteer" to relocate to frontier areas and remote rural areas of the interior, where they often slept in single-sex barracks and prepared for war. They dug air-raid shelters and were awakened during the night for

military drills. In major cities, underground rivers were diverted to provide tunnels for use in war. During the height of the cult of Mao, there was strong social support for this state-led reorganization, with virtually no room for dissent. The notion was propagated that China would pick itself up after its long history of humiliation by imperialist powers, become self-reliant in the face of international isolation, and regain strength in the world. Since China lacked modern technology and wealth, the vehicles for its transformation were to be brute labor, defeat of internal enemies through class struggle, collective remolding of human nature through self-criticism, and study of Marxism–Leninism–Mao Zedong Thought.

The militarization of society had multiple purposes. It was one strategy in the Party's attempt to break up the traditional Confucian family structure and create a "new socialist man." It was part of an effort to use mass mobilization efficiently to overcome China's poverty and backwardness, deriving motivation through fear of real and imagined threats to China's security from without and within. "Continuous revolution" was a central tenet of Mao's brand of socialism, requiring constant social upheaval and reorganization. Finally, militarization was a coercion mechanism. Military-style social reorganization facilitated Party control and kept people too preoccupied with the transformations of their individual lives to question or resist Mao's rule. Over the course of the Mao years, the enemy shifted: it was variously said to be the Guomindang, the imperialist West, the revisionist Soviet Union, or land-hungry India. Meanwhile, the struggle against perceived internal threats from counterrevolutionaries, "rightists," and other "black" elements was at times so convulsing that it threatened to bring Chinese society into a state of collapse.

The contrast between the militarized Maoist approach toward the conquest of nature and traditional Chinese values of harmony and sustainability is sharp. Historically, wise leaders were considered to be those who conducted the human–nature relationship well, and legal codes from the Qin (221 B.C.–206 B.C.) to the Qing dynasties (A.D. 1644–A.D. 1911) contain provisions reflecting environmental concerns, such as those prohibiting poaching young animals and birds in springtime, restricting deforestation, and prescribing how land was to be used on hillsides.[4] The mulberry tree/fish farm system is often considered a model of sustainable agriculture, while terraces are often perceived to be

efficient ways to maximize scarce arable land. These themes represent only the best-known examples of Chinese nature philosophy.

In traditional China, there were at least three major schools of thought about how humankind should behave in nature: a Daoist tradition that tended toward accommodation to nature's way, a Buddhist tradition of reverence for all living beings, and a Confucian tradition that actively sought to manage, utilize, and control nature.[5] These varied understandings of nature, by turn adaptive, respectful, and confrontational, are almost as old as Chinese civilization. Of the three, the anthropocentric Confucian tradition, which leans toward mastery of nature, has been by far the dominant one. While Confucianism has many principles prescribing what amounts to "wise use" of natural resources, its emphasis is on the regulation and ordering of the nonhuman environment for the good of human society.

China's geographical conditions help explain these preoccupations, for the country has long been at the mercy of natural disasters. Ancient legends speak of floods and droughts; China's legendary first ruler, Yu the Great, is said to have built hydro-projects for flood control more than four millennia ago. Vulnerability to the forces of nature helped establish the importance of water conservancy projects and granaries to ward against famine as primary responsibilities of imperial administrators. Early successes of engineering and coordination in the struggle against nature can be seen in massive waterworks projects such as the Dujiangyan irrigation works, built during the Qin dynasty, and the Grand Canal, built in the seventh century to link North and South China.

Despite China's many successes in tempering nature and molding landscapes to make them more suitable for human life, environmental degradation is far from a recent Chinese invention. A powerful national drive toward expansion, mastery, and resource exploitation, fueled by population growth and new technologies, has contributed for millennia to widespread destruction of nature and ecosystems. China's efforts to reshape lands and waters, open up forests, and feed a growing population extend into prerecorded time. A pattern of "exhausting the earth" through deforestation, erosion, siltation, desertification, land reclamations, habitat loss, and human-caused extinctions has been noted for centuries and has recently been the subject of innovative scholarly studies.[6] Even the notion of battling against nature, which provides the central image for this book, can be found in late imperial times:

> The local peasants in defence of homesteads and of farms
> Willingly commit themselves to contending with the waters:
> From west to east, and east to west, along both river margins,
> Dykes are constructed, strand by strand, the way they re-weave hawsers.[7]

By the Mao years, China's most fertile and readily arable land had been thoroughly transformed by centuries of human use, and large areas of China were parched and eroded from deforestation and overexploitation. Extinctions and pressures on rare species were already common. By the early eighteenth century, for example, tiger attacks were no longer recorded in Lingnan in southern China, as the tiger habitat had been destroyed.[8] Thus, official public values of sustainability and human–nature harmony did little to protect China from a pattern of overuse and destruction that predated the Mao years by millennia.

The Mao-era effort to conquer nature can thus be understood as an extreme form of a philosophical and behavioral tendency that has roots in traditional Confucian culture. Many of the themes sounded in this book – including state-sponsored resettlements and waterworks projects, extensive and excessive construction of dikes for land reclamation, political campaigns to change agricultural practices, and environmentally destructive land conversions in response to population shifts – can be found in imperial times.[9]

Despite such continuities with pre-Mao practices, however, the relationship between humans and nature during the Mao era was distinctive in Chinese history. Maoism rejected both Chinese tradition and modern Western science. The effort to conquer nature was highly concentrated and oppositional, motivated by utopianism to transform the face of the earth and build a socialist paradise, and characterized by coercion, mass mobilization, enormity of scale, and great human suffering. The articulation of Mao's war against nature is striking for its overtly adversarial expression and disregard of objective scientific principles, while its implementation stands out for focused destructiveness and mass coordination. Maoism strengthened problematic aspects of Chinese tradition, such as the tendency to see nature through a purely utilitarian lens. At the same time, through suppression of local knowledge, it undermined aspects of traditional practice that fostered sustainable relations with nature. In these respects, the Mao era represents a

sharp departure from what came before and from what followed with the economic reforms.

A Chinese scholar from Yunnan province, a man in his sixties whose life has been buffeted by the numerous political campaigns of the Mao years and who has observed their environmental consequences at close hand, spoke in confidence to me about the role of Mao. He voiced what many thoughtful intellectuals of his generation say in private but cannot publish in the current political climate. His comments, as follow, are worth quoting at length, for they touch on many of the themes that will be treated in depth in the coming pages:

> Under the influence of the Soviet Union and his own peasant background, Mao adopted a series of unsuitable policies. Mao was always struggling in war, so he continued to struggle after the war ended. Class struggle – everything was a struggle. In his youth, he wrote a line of poetry, "To struggle against the heavens is endless joy, to struggle against the earth is endless joy, to struggle against people is endless joy" [*Yu tian dou, qi le wu qiong, yu di dou, qi le wu qiong, yu ren dou, qi le wu qiong*]. His whole philosophy was that of struggle. Not everyone in the Party thought as he did. Zhou Enlai opposed the population policy. Peng Dehuai opposed the Great Leap Forward.[10] Destruction of nature during the Mao years was connected to the cult of Mao.
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> Traditional Chinese philosophy emphasizes moderation and adaptation, "Harmony between the Heavens and Humankind" [*Tian Ren Heyi*]. But Mao took another view: "Man Must Conquer Nature" [*Ren Ding Sheng Tian*]. For him, building China meant transforming China's face. To improve the lives of the poor, nature should be defeated [*zhansheng ziran*]. Mao didn't respect nature. This struggle mentality was there from the beginning, with Marxism. Marxism rests on struggle.
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> Although Mao was supposedly a peasant, he had little farming experience. Mao's attitude toward nature was an oppositional relationship. It influenced China for decades. Population policy and national construction were influenced by his military mentality. With respect to population, Mao said, "With Many People, Strength is Great" [*Ren Duo, Liliang Da*], and he suppressed those who disagreed with him. The Great Leap Forward of 1958 did not

> respect the laws of nature or science. Mao wanted to catch up with Great Britain in steel production, and many trees were cut down to fuel furnaces. By 1959, the people had no grain, and in 1960 and 1961 there was a great famine. So Mao said, "open the wilderness to plant grain" [*kaihuang zhong liangshi*], and it was another disaster for the forests. The forests were cut without restraint so as to plant grain in the mountains. During the Cultural Revolution, there were even more crazy things. Everything was collective and nature belonged to the country, so there was no individual responsibility to protect nature. Tradition was destroyed. Because of the "Take Grain as the Key Link" policy in agriculture, only grain was planted and other crops were destroyed. Officials were ordered to cut down fruit trees. If they resisted, it was terrible. Some cut down trees with tears in their eyes. The third great cutting took place in 1980–82, after Mao's death. The farmland that had been state-owned was contracted out to families, as were the forests. But people feared they wouldn't have the right to use the land for long, so there was terrible cutting.[11] So we can speak of "three great cuttings" [*san da fa*]: the Great Leap Forward, the Cultural Revolution, and the early 1980s.
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> Because of their lack of a democratic, scientific approach, and their philosophy of struggle, the leaders didn't know how to build China. They had ideals, but if you struggle against your own people and against nature, and don't allow people to express their opinions, it suppresses people and harms nature.

As this experienced and thoughtful Chinese intellectual indicates, the changes in attitude toward nature of the pre-Mao, Mao, and post-Mao periods can be conveyed, in broadest outline, by the set phrases of which Chinese are so fond. Traditional China is associated with *Tian Ren Heyi* [Harmony between the Heavens and Humankind]; this core apothegm yielded in the Mao era to *Ren Ding Sheng Tian* [Man Must Conquer Nature]. In reform-era China, both have been largely supplanted by the popular saying, *Yiqie Xiang Qian Kan* [Look Toward Money in Everything], as commercialization and the market have become predominant. Under Mao, conventional commitments toward mutual accommodation in human relations, and between humans and nature (however ineffective in practice) were publicly abrogated, and a