

ing and non-producing class, must all be paid for out of the products of the workers, and is a ceaseless burden to their lives." The real crime of modern civilization could not be traced to machinery or industrialization, but to the fact that in "using our control of the powers of Nature for the purpose of enslaving people, we care less meantime of how much happiness we rob their lives of."³⁵

The root of this problem, for Morris, lay in "capitalistic manufacture, capitalistic land-owning and capitalistic exchange":

It is profit which draws men into enormous unmanageable aggregations called towns, for instance; profit which crowds them up when they are there into quarters without gardens or open spaces; profit which won't take the most ordinary precautions against wrapping a whole district in a cloud of sulphurous smoke; which turns beautiful rivers into filthy sewers; which condemns all but the rich to live in houses idiotically cramped and confined at the best, and at the worst in houses for whose wretchedness there is no name.³⁶

Morris's ecological critique did not stop with the urban environment. His broader commitment to environmentalism could be seen in his passionate defense of Epping Forest, near London. In opposition to the "expert" advice of "a wood bailiff, whose business is to grow timber for the market; or of a botanist whose business is to collect specimens for a botanical garden; or of a landscape gardener whose business is to vulgarize a garden or landscape to the utmost extent that his patron's purse will allow of," Morris, in a letter of protest to the *Daily Chronicle* in 1895, counterposed the ecological values of ordinary Londoners who had grown up with this unique forest and considered it part of the common wealth: "We want a thicket, not a park, from Epping forest.... [Otherwise] one of the greatest ornaments of London will disappear, and no one will have even a sample left to show what the great north-eastern forest was like."³⁷

In the late nineteenth century the struggle over the conservation of nature was to emerge as one of the dominant forms of social struggle—and nowhere more so than in the United States.

4

EXPANSION AND CONSERVATION

The conservation movement that arose in the late nineteenth century—most notably in the United States—was, according to noted natural-resource economists Harold Barnett and Chandler Morse, "an American part of a major revolution in thought throughout the Western world against the then-dominant social philosophy of the self-regulating market. Marxism was another European part of that same revolution in ideas." Just as socialists challenged the idea that labor should be looked upon as a mere "factor of production" in the operation of a competitive capitalist economy, so conservationists came to challenge the dominant notion of land as a mere economic factor. Only through the deliberate social regulation of land—often through public ownership—conservationists argued, could natural resources be preserved. A conflict emerged between private exploitation/short-term

expansion and public conservation that was to be carried forward into the ecological disputes of the late twentieth century.¹

EXPANSION

The nineteenth century was a golden age of capitalist economic growth, and nowhere more so than in the United States. The second phase of the Industrial Revolution (1840-1875), which coincided with the spread of industrialization to the United States and Canada, was marked by the rise of the railroad and heavy industry. The building of railroads and canals opened up whole continents to the world market. By the 1850s the railroad alone accounted for around 15 percent of all investment in the United States. By the end of the century, however, the great railroad boom was over and both economic growth and geographic expansion began to slow. In 1890 the Bureau of the Census officially declared the "frontier of settlement" closed.²

Three years later, in a talk before the American Historical Association in Chicago, Frederick Jackson Turner introduced his famous "frontier thesis." According to Turner, the history of the United States up to 1890 could be viewed as a great open book in which the central theme was the conquest of successive frontiers:

It begins with the Indian and the hunter; it goes on to tell of the disintegration of savagery by the entrance of the trader, the pathfinder of civilization; we read the annals of the pastoral stage in ranch life; the exploitation of the soil by the raising of unrotated crops of corn and wheat in sparsely settled farming communities; the intensive culture of the denser farm settlement; and finally the manufacturing organization with city and factory system.³

Each new natural environment, in Turner's view, created a different type of frontiersman: "The exploitation of the beasts took hunter and trader to the west, the exploitation of the grasses took the rancher west, and the exploitation of the virgin soil of the river valleys and prairies attracted the farmer." Each frontier "was won by a series of Indian wars" that conquered both "hostile

Indians and the stubborn wilderness." In this respect the frontier was "a military training school, keeping alive the power of resistance to aggression, and developing the stalwart and rugged qualities of the frontiersman."⁴

For Turner, the economic prosperity and democracy of the United States was rooted in the availability of "free land." The closing of the frontier meant that there was no more free land to be exploited. Both democracy and prosperity were therefore threatened. The only answer was to seek new frontiers abroad.

Such expansionist views of were not without their critics. In the eyes of the great social critic Thorstein Veblen, the frontier expansion of American society—the later stages of which were carried out not so much by Turner's frontiersman as by large, monopolistic corporations—was a story of waste on a gigantic scale. Veblen believed that business civilization had created a culture in which predatory and pecuniary values dominated over values of craftsmanship, industry, and conservation. Presenting a view of the frontier quite different from Turner's, he argued in *Absentee Ownership* (1923) that the "American plan or policy" of natural resource use "is very simply a settled practice of converting all public wealth to private gain on a plan of legalized seizure." The first natural resources to be seized and exhausted in this way had been the fur-bearing animals. This same practice of enrichment through the systematic looting of natural wealth had then been applied to the soil in the slave South, which was ruined by cotton production; to mining for precious metals; and to the exploitation of "timber, coal, iron and other useful metals, petroleum, natural gas, water-power, irrigation [resources], [and] transportation (as water-front, right-of-way, terminal facilities)." "Capitalizing" on natural resources by treating them as a source of "free income," Veblen argued, encouraged waste on a national and global scale. For instance, the wasted timber associated with logging and land-clearing practices was so great "that this enterprise of the lumber-men during the period since the

middle of the nineteenth century has destroyed very appreciably more timber than it has utilised."⁵

CONSERVATION

For most conservationists concerned with the preserving the wilderness, it was not simply the frontier that was vanishing in the face of the human onslaught, but that part of nature that was independent of human beings. When Vermont naturalist George Perkins Marsh wrote his classic *Man and Nature*—referred to by Lewis Mumford as “the fountainhead of the conservation movement”—in 1864, it was the most detailed and systematic study of “the earth as transformed by human action” since Buffon’s work of the late eighteenth century (see Chapter 2). However, Marsh’s views were a far cry from Buffon’s optimistic Enlightenment appraisal of the ability of humans to dominate nature. “There are parts of Asia Minor, of Northern Africa, of Greece, and even of Alpine Europe,” Marsh wrote,

where the operation of causes set in action by man has brought the face of the earth to a desolation almost as complete as that of the moon; and though, within that brief space of time which we call “the historical period,” they are known to have been covered with luxuriant woods, verdant pastures, and fertile meadows, they are now too far deteriorated to be reclaimable by man, nor can they become again fitted for human use, except through great geological changes, or other mysterious influences or agencies of which we have no present knowledge, and over which we have no prospective control. The earth is fast becoming an unfit home for its noblest inhabitant.... Another era of equal human crime and improvidence ... would reduce it to such a condition of impoverished productiveness, of shattered surface, of climatic excess, as to threaten the depravation, barbarism, and perhaps even extinction of the species.⁶

No one placed greater emphasis than Marsh on the fact that “nature” was not something external to human beings, but that human beings were themselves authors of nature. *Man and*

Nature, as he wrote to a friend before the book was published, was intended as “a little volume showing that whereas [others] think that the earth made man, man in fact made the earth.” In other words, nature could no longer be seen as a reality external to human society, but was to a considerable degree the product of human transformation. Marsh’s approach therefore brought the issue of nature into human history as never before. Moreover, humans were transforming the earth in alarming ways. After carrying out an audit of the entire planet, Marsh concluded that, “Man is everywhere a disturbing agent. Wherever he plants his foot, the harmonies of nature are turned to discords.... [O]f all organic beings, man alone is to be regarded as essentially a destructive power, and ... wields energies to resist which, nature ... is wholly impotent.”⁷

Although industrialization entered only indirectly into Marsh’s analysis, it was clear that it constituted the major force behind the ecological destruction that he described. It is thus no mere coincidence then that *Man and Nature*—the leading work on planetary ecological devastation to appear prior to the twentieth century—was published in 1864, only three years before *Capital*, Karl Marx’s famous critique of the age of industrial capital. Both works were a response to forces engendered by the Industrial Revolution. And while Marx’s ideas helped to inspire working-class revolts against capitalism, Marsh’s ideas gave impetus to the struggle to place limits on the human exploitation of nature.⁸

The year 1864, when *Man and Nature* was published, marked a turning point for public conservation: the U.S. government ceded Yosemite Park to the state of California with the stipulation that it be preserved as a public park. A few years later, in 1872, the federal government established Yellowstone as the first National Park. The conservation movement that emerged from these modest beginnings is usually identified with such great figures as Marsh, Frederick Law Olmsted, John Muir, and Aldo Leopold, along with more business-oriented conservationists

such as Gifford Pinchot and Theodore Roosevelt. Yet, it is worth remembering that many other individuals, most now forgotten, protested the wanton destruction of nature and the extreme environmental degradation of the cities. A large proportion of these protesters were women. For instance, about half of the nature essays written for the *Atlantic Monthly*, when this became a recognized genre in the late nineteenth century, were by women. In the very first issue of *Audubon Magazine*, in 1887, Celia Thaxter wrote against the feminine fashion of decorating hats with the feathers of rare birds.⁹

A major concern, leading to the growth of the conservation movement, was the rate of extinction. By the late nineteenth century it was clear, to those who saw the transformations of the U.S. wilderness through conservationist eyes, that the extermination of wildlife was occurring everywhere. Some 40 million bison (or buffalo) had ranged over a third of North America when the Europeans first arrived. Commercial hunting of bison for meat began in the 1830s and soon reached 2 million head a year; it rose to 3 million a year after 1870, when bison hides began to be made into commercial leather. The Union Pacific Railroad, completed in 1869, divided the bison into northern and southern herds, which made them easier to hunt. The southern herd was largely exterminated in the early 1870s. After the completion of the Northern Pacific Railroad in 1880, the slaughter of the northern herd commenced. By the last decade of the nineteenth century, bison were nearly extinct. "The bison ... met their end," environmental historian William Cronon has written, "because their ecosystem had become attached to an urban marketplace in a new way."¹⁰

As bird species vanished, bison herds disappeared, and forests became mere memories, more and more people, particularly in the growing urban centers of the country, became concerned about conservation. The great enemies of nature in the popular view were the land-grabbing railroads and the large logging companies. The conservation movement thus received much of



Men on the transcontinental railroad shooting bison for sport.
[Culver Pictures, Inc.]

its impetus from populist attacks on railroads, Gilded Age capital, and big business. Despite this, the conservation movement came to be dominated by more business-oriented forces who sought not so much to oppose the environmental depredations of the large corporations as to regulate and rationalize the exploitation of natural resources for purposes of long-term profits. Hence the figures who came to exemplify the dominant strand of U.S. conservationism during this period were not preservationists like John Muir, the defender of the Yosemite and the founder of the Sierra Club, but self-styled "scientific-managers" like Gifford

Pinchot and Theodore Roosevelt, the founder of the U.S. Forest Service, who advocated "efficiency," "wise use," and the application of business principles to nature.¹¹ It was the efficiency-minded conservationists who were most effective in exerting direct control over state policy in order to construct a system of natural resource management based in government agencies.

Thus Pinchot, the founder of the U.S. Forest Service and the preeminent figure in the creation of the national forests, made a sharp distinction between "scientific forestry" and preservation—a distinction symbolized by his successful effort to have the national forest reserves placed under the administration of the Department of Agriculture and to have the name changed from "forest reserves" to "national forests." "The object of our policy," Pinchot explained, "is not to preserve the forests because they are beautiful ... or because they are refuges for the wild creatures of the wilderness ... but ... the making of prosperous homes.... Every other consideration comes as secondary."¹²

But despite the narrow economic motives that guided Pinchot's conservationism, it represented an attempt to move away from pure market principles where natural resources were concerned. Progressive conservationists thus stood for what Pinchot's advisor Philip Wells was to refer to as the "socialization of management" in the use of natural resources.¹³

President Theodore Roosevelt's approach to conservation was a complex amalgam of business spokesperson concerned with long-term profits, engineer concerned with the most efficient exploitation of natural resources, and hunter loath to see the last large game animals disappear. As he told the Forest Congress in 1905, "Both the production of the great staples upon which our prosperity depends and their movement in commerce throughout the United States are inseparably dependent upon the existence of permanent and suitable supplies from the forest at reasonable cost." Despite the obvious limitations associated with such a stance, Roosevelt's conservationism produced positive results: for instance tens of millions of acres of forest were added

to the National Forests during his years as President (1901 to 1909).¹⁴

In contrast to this dominant form of conservationism, there were others who represented a wider "ecological conscience" rooted in a nascent "land ethic"—to use terms coined later by ecologist Aldo Leopold. In Leopold's words, "The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land." It rejects the valuation of the biotic (or natural) world in economic terms alone and establishes distinct "biotic rights" to existence. As the U.S. conservation movement developed, it was more and more divided between those establishment figures like Pinchot and Roosevelt who saw conservation in purely monetary terms—that is, in terms of the "wise use" of natural resources—and those like Muir and Leopold who insisted on putting preservation first and profits second. The most famous struggle between the two branches of the movement was to occur in the years 1908-1913, when Muir and his allies (including the major women's clubs attached to the conservation movement) attempted to prevent the beautiful Hetch Hetchy Valley in Yosemite National Park from being turned into a reservoir that would provide hydroelectric power for San Francisco. In the end, Pinchot and Roosevelt won and the dam was built.¹⁵

If the main struggle within the conservation movement from the 1890s to the 1930s was between preservationists, who emphasized the intrinsic value of nature, and conservationists, who worshiped at the altar of efficiency, there were others who did not fit comfortably into either of these camps. The conservation movement also attracted political radicals, such as the socialist preservationist Robert Marshall (1901-1939). Marshall, an employee of the Forest Service, which he served in various high-level capacities, was one of the leading figures involved in the struggle to reform the Forest Service's management of the national forests during the New Deal Presidency of Franklin Roosevelt. He was also one of the founders of the Wilderness Society (in 1935), and

its principal source of funds in its early years. Marshall believed that it was essential to preserve vast tracts of wilderness as roadless areas free from mechanical contrivances of every kind. At the same time he was the strongest critic in his day of the private exploitation of forests. In his best-known work, *The People's Forests* (1933), he argued that "The fundamental advantage of public ownership is that in the former social welfare is substituted over private gain as the major objective of management." It was therefore necessary to protect wilderness areas from "commercial exploitation" by expanding public ownership. He recommended that the government immediately acquire an additional 240 million acres of forest. He had a number of plans for how this land could be used: it could become a center of employment for several million of the 12 million unemployed. He also wanted government subsidized public transportation leading to the public forests; creation of camps for urban workers to enjoy the forests at nominal cost; the elimination of Forest Service practices that discriminated against blacks, Jews, and other minorities; and purchase of more recreational public land near urban centers. In response to his promotion of such ideas, the editor of *The Journal of Forestry* labeled him a "dangerous radical." In 1938, the year before his death, Marshall came under investigation by the House Committee on Un-American Activities, which accused him of aiding Communism through his support of radical causes. In his will Marshall divided his \$1.5 million estate equally among three trusts: the first devoted to the promotion of trade unions and "an economic system in the United States based on the theory of production for use and not for profit"; the second backing civil liberties; and the third committed to wilderness preservation.¹⁶

THE CITIES

While the conservation movement was struggling to define the future of what remained of the American wilderness, there were other environmental struggles taking place in the "urban wilder-

ness" or "jungle." These late-nineteenth and early-twentieth century urban environmental struggles were organized around the demand for improved public health and sanitation. Even though it had been understood since the 1830s and 1840s that many of the worst epidemics could be countered through improved water and sewage facilities, progress had been slow. As late as 1866 a cholera epidemic broke out in London, killing 6,000. The infant mortality rate in New York City was 240 per thousand live births in 1870. Yet the provision of sanitary facilities was delayed because private firms did not consider such facilities remunerative. As a result, local communities everywhere were forced to turn to what English radical Sidney Webb was to call "municipal socialism" as a means of establishing the necessary environmental safeguards.¹⁷

"Just as early industrialism had squeezed its profits not merely out of the machine, but out of the pauperism of the workers," Lewis Mumford has written, "so the crude factory town had maintained its low wages and taxes by depleting and pauperizing the environment. Hygiene demanded space and municipal equipment and natural resources that had hitherto been lacking. In time, this demand forced municipal socialization, as a normal accompaniment to improved service. Neither a pure water supply, nor the collective disposal of garbage, waste, and sewage, could be left to the private conscience or attended to only if they could be provided for at a profit.... In small centers, private companies might be left with the privilege of maintaining one or more of these services, until some notorious outbreak of disease dictated public control; but in the bigger cities socialization was the price of safety; and so, despite the theoretic claims of *laissez faire*, the nineteenth century became, as Beatrice and Sid-

ney Webb correctly pointed out, the century of municipal socialism. Each individual improvement within the building demanded its collectively owned and operated utility: watermains, water reservoirs and aqueducts, pumping stations: sewage mains, sewage reduction plants, sewage farms.¹⁸

The goal of bringing fresh air, clean water, green open spaces, sunlight, and fresh food back into the city, while combatting poverty, slums, and homelessness, brought together planners, physicians, public health officials, members of women's clubs, romantic critics of capitalist society, and socialists, all of whom sought to make the degraded urban environment liveable. In the United States, the centrality of the women's movement to the struggle for the urban environment led to an emphasis on "municipal housekeeping" that united the battles over the home and urban environments into one struggle for reform. Some of the most prominent women in the country were leaders in this struggle, including Jane Addams, founder of the legendary Hull House in Chicago (a settlement house in the working-class quarter of the city occupied by women dedicated to the cause of social reform); Florence Kelley, a translator and friend of Frederick Engels and the most indefatigable Hull House researcher into the conditions of sweatshops located in tenement houses; Alice Hamilton, the first woman professor at Harvard and the pioneering figure in occupational health in the United States; and Ellen Swallow Richards, the first woman to attend MIT, who went on to play a leading role as a scientist and reformer in the areas of sanitation and nutrition.¹⁹

In England the conditions of the cities at the turn of the century inspired the utopian socialist planner Ebenezer Howard to develop his "garden city" (or green belt) plan for naturalizing the city environment and transcending the contradiction between city and country. Howard's ideas were to exert a strong influence



An overcrowded tenement on New York's Lower East Side in the early 1900s. [Culver Pictures, Inc.]

on later radical urban and regional environmentalists in both Britain and the United States, including Sir Patrick Geddes and Lewis Mumford.²⁰

Socialists and radical planners were often leaders in this movement, since they saw the need for public as opposed to private solutions and were attuned to working-class demands for change. Indeed, the most insistent calls to reform the city environment often came from the bottom of the social hierarchy. For instance, it was the organized protest of thousands of unemployed workers in New York City in 1857, calling day after day for the construc-

tion of Central Park (along with other public work projects) that led to the building of the park under the direction of the famous landscape architect Frederick Law Olmsted.²¹

Building on this popular desire for the improvement of the urban environment, socialists called for the reorganization of both society and urban life. Edward Bellamy's utopian socialist novel *Looking Backward* (1888), which sold millions of copies in the United States, owed much of its popularity to the sharp contrast it drew between the environment of nineteenth-century capitalist Boston and a utopian socialist Boston of the year 2000. The picture the novel painted of Boston in the year 2000 was idyllic: "At my feet lay a great city. Miles of broad streets, shaded by trees and lined with fine buildings, for the most part in continuous blocks but set in larger or smaller inclosures stretched in every direction. Every quarter contained large open squares filled with trees, among which statues glistened and fountains flashed in the afternoon sun."²² City and regional planners such as Boston's Sylvester Baxter saw Bellamy's vision of the city of the year 2000 as indistinguishable from the efforts of those like Olmsted who sought to build a system of city parks across the nation, urbanizing nature in order to naturalize the urban environment. Bellamy's ideas caught fire in this atmosphere of urban reform because they envisioned a city without poverty, crime, or violence, one in which society's economic surplus was used primarily for public works and pleasures rather than for the increase of individual incomes, and where the splendor of life was on its social side. He believed that a rationally organized system of production could meet all essential human needs, and depicted a society in which people were not stimulated to consume more and more.²³

For another influential socialist writer, Upton Sinclair, the capitalist urban environment was a "jungle"—a metaphor that he employed in his great muckraking novel by that title (originally serialized, beginning in 1904, in the socialist publication *The Appeal to Reason*). Sinclair's *The Jungle* had as its subject Chicago's Packingtown, best known for its immense slaughter-

houses. Many of its most powerful passages were devoted to environmental destruction. In describing the part of the Chicago River known as "Bubbly Creek," he wrote:

It is constantly in motion, as if huge fish were feeding in it, or great Leviathans disporting themselves in its depths; bubbles will rise to the surface and burst, and make rings two or three feet wide. Here and there the grease and filth have caked solid, and the creek looks like a bed of lava; chickens walk about on it, feeding, and many times an unwary stranger has started to stroll across, and vanished and never been seen again. The packers used to leave it that way, till every now and then the surface would catch fire and burn furiously, and the fire department would have to come and put it out.²⁴

Chicago, with its immense slaughterhouses, was the point at which the railways of the West converged with those of the East. Because of this it was the most important urban center for the exploitation of the natural resources of the Western hinterland. Cattle were born in the West, grazed on lands formerly occupied by the buffalo, fattened on their way to market in the feedlots of Iowa and Illinois, and slaughtered on the "disassembly line" in Chicago. There they were converted into final commodities in the form of dressed beef to be shipped East. The object of this corporate meat-packing was, in William Cronon's words, "to systematize the market in animal flesh—to liberate it from nature and geography." For Upton Sinclair this was nothing other than "the spirit of Capitalism made flesh."²⁵

In a famous description of Chicago's slaughterhouses in his novel *The Jungle* (1904), Upton Sinclair emphasized the common degradation to which both animals and human beings were reduced under capitalism: "It was pork-making by machinery, pork-making reduced to mathematics. And yet somehow the most matter-of-fact person could not help thinking of the pigs; they were so innocent, they came so very trustingly; and they were so