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ECOLOGY AND CLASS

We are finally coming to recognize that the natural environment is the exploited proletariat, the downtrodden nigger of everybody's industrial system.

—Theodore Roszak

THE DOMINATION OF NATURE

The great achievement of the ecology movement has been to promote a general understanding that human relations with the natural environment are vital to the shaping of human social relations. In turn, social relations alter the natural environment. In this regard relations of power play a decisive role. Who was to make the decisions about how to fill the space left vacant by the terrorist attack on the World Trade Center was determined, to a large degree, by which interests succeeded in setting the priorities. What is still less understood is that the built environment that sustains our mode of life and, indeed, the totality of our surroundings, including what we code as nature, is mediated by labor. The construction of our built environment as well as our primary relation to what we call the external environment is intrinsic to labor. The production of the built environment is, at the same time, the production of social space. When a construction project displaces residents and their homes not only is physical space altered but a new social space is created as well. When people form a neighborhood movement to

force authorities to build affordable housing rather than office buildings or luxury apartments on vacant or condemned land, they as well as the construction workers are producing space.

The materialist insight that humankind is part of natural history refutes the humanist illusion that somehow we stand above the material world. This illusion forgets that we are biologically constituted beings and that labor, the process by which we negotiate with nature and thereby transform human nature as well, is the condition of what we take as specifically human. Thus the labor question is not only socially but ontologically significant; it goes to who we are and have become. While all workers, paid or not, know that civilization rests on their shoulders, we are only now becoming aware that the forms of labor—or what scientists' euphemistically term human intervention—bear on the extent to which nature may be able to support life. Capital, which out of hubris imagines it creates the world, is indifferent to this fact because to question its domination is to question itself. Labor forms are not determined chiefly by the laborer but by those who hire labor; when extracting as much profit as possible, hirers are prone to ignore the ecological consequences of the choices they have made in shaping the labor process. But if capital's power can design the transformation of the material world, including the ordering of physical space and its forms, the rest of us must live with the results. At the same time, it is labor of all sorts that effects this transformation. The ecological question is a class question because the class power that configures the forms of labor bears on the fundamental well-being of the species, in the first place those charged with the tasks associated with execution. The struggles over class in the twenty-first century are likely to be about whether capital's logic can be thwarted and a new logic of democratic relations in society and nature put in its place.

While we experience ecological problems as effects, the basic issue is not whether the consequences of the attempts to dominate nature are deleterious; domination cannot succeed because the ecosystems of which we are a part will inevitably resist plunder. Yet the will to domination marks our relations with nature and the character of our social relations. Thus the struggle against class domination in its widest sense is the heart of the struggle to render our ecosystem safe for life, not merely for its survival but for its quality. The efforts to reform public policy to reduce the harmful effects of current configurations of industrial production, urbanism, and consumption are necessary, but the ecological crisis we face can be resolved only if we change our modes of labor and the concomitant social relations—at the workplace, in the cities, in the way we construe pleasure.

Ecological demands present the most compelling challenge to the capacity of global capitalism to solve its systemic problems without courting disasters that affect humans and other life-forms; but they also pose the question of the efficacy of rights, which marks many social movements today, particularly the latest human rights–based politics. Of the four great social movements of our time, ecological demands alone are not ostensibly based on identities that can be reduced to physical, biological, and cultural characteristics of specific social formations. On the contrary, the questions posed by the permutations of the ecosystems, indeed, the relations of humans to nature, expand biopolitics to include the issue of how to ensure the sustainability of life itself. The question has become whether, and how, the human species can reproduce itself under conditions in which its most developed forms of the production of knowledge and of material goods pose a threat to its own species and to many others as well.

On its face, the ecological interest may be regarded as transgressing the limitation of a politics that solely addresses the interests of particular social formations and, indeed, the human interest, by creating a politics that embraces all living things. Capitalists and workers, men and women, politicians and citizens all require action to remedy the serious deterioration of the environment. A growing number of bodies of water around the globe are polluted and kill or infect fish with harmful metals like mercury, rendering them inedible, and reduce the supply of potable water. Some studies claim that perhaps half the world's population will suffer severe water shortages by 2020. We are afflicted with unsafe air, especially in the urban centers, where asthma among children of all social classes is rampant and, together with contaminated foods, contributes to the cancer epidemic, one that seems to affect rich as well as poor, if not in equal proportions. And we are witnessing further relentless destruction of nature, not only of trees and animal forms but, through massive erosion, of the soil from which our physical sustenance ultimately derives. Droughts and their mirror images, floods, exacerbated by regressive industrial regimes such as single-crop economies and deforestation for mining and clean-cut lumber production, are depriving tens of millions of people of food.

Scientists have confirmed that global warming is no longer an unproven hypothesis. Since proof is equivalent to whether a consensus exists among those qualified to make judgments about scientific propositions, President Bush, upon the advice of a commission of scientists he appointed—including some leading climatologists—and after expressing skepticism, now admits that the emission of large quantities of carbon dioxide, so-called green-

house gasses, endangers the environment and that means must be found to reduce them. But consistent with his nationalist predispositions, Bush has refused to sign the Kyoto Treaty limiting greenhouse gases on the grounds it would hurt U.S. economic growth and undermine the nation's sovereignty. Of course, the point of any international treaty is precisely to limit the ability of any signatory to act unilaterally. So we may assume that the president's acknowledgment of the danger is a rhetorical gesture made under conditions of embarrassment rather than conviction. The only problem is that, because the United States uses a third of the world's resources, what it does in relation to the environment is somewhat more consequential than what Sri Lanka or even a huge country like India does.¹

The problems posed by the crisis of the ecosystems could counter the claims of this book that American as well as all modern societies are divided by classes. For is it not the case that regardless of our social station we all live in the same ecosystems? Can the wealthy find a sanctuary that would protect them from holes in the ozone layer or from the effects of global warming? Even a cursory reading of the obituary pages of the *New York Times* confirms that the relatively privileged—the almost invariable subjects of that newspaper's death notices—regularly die of cancer as well as of heart disease and other common afflictions. To the extent that cancer and heart illness are environmental diseases as much as of genetic predisposition linked to family histories, conditions of wealth go only so far in protecting the economically privileged from their ravages. Is it not in everyone's interest to find the path to restoring a healthy environment? It may be true that, as individuals, capitalists share the same fate as the rest of us, but as components of capital these individuals are embodiments of a system-logic they cannot oppose without contravening the system itself. That is why leading governments, multinational corporations, and transnational agencies of control resist the drastic measures advised by many scientists, environmentalist organizations, and some international agencies that would require them to significantly slow activities that produce greenhouse gas emissions, let alone reverse the prevailing regimes of industrial production and patterns of consumption that court disaster. Why do even the most enlightened among them rest content with palliatives like the Kyoto Treaty? Why have two of the most powerful countries, the United States and Italy, refused to sign on to even limited global environmental regulations? Are these social bodies merely blind or is there a systemic series of determinations that prevents them from taking the necessary steps to save themselves and the rest of us? Why are movements against the current global economic and political

arrangements gaining ground and beginning to adopt an anticapitalist outlook?

The roots of capital's resistance lie in three of its major presuppositions:

1. The market is the only measure of social, cultural, and economic value; it supersedes traditional patriarchal and religious values and the propositions of bourgeois humanism (except during the Cold War, when secular Western powers made common cause with religious fundamentalists against the Soviet Union in, among other countries, Afghanistan);
2. Government regulation of private economic activity, except as it rationalizes unwanted competition between capitals, is inimical to the vital interests of the system. For this reason capital cannot recognize ecology as an imperative that supersedes the market. What accounts for its historical blindness is the fatal connection it makes between its Smithian definition of economic and social freedom and the imperatives for capital accumulation based on the exploitation of labor, which is coded as economic growth. In the latter context the devaluation of labor both in monetary and ideological terms is a symptom of the devaluation of nature. Capital encounters nature only as an obstacle that, armed with technology, it can overcome. Underlying this view is one of the historical legacies of the Enlightenment: that humans stand, somehow, outside nature, a situation mediated by transcendental Mind. In addition to freeing the market from the limitations imposed by the feudal system, capitalism triumphed through what Francis Bacon termed the conquest of nature, the leading edge of which was technology. As Max Horkheimer and Theodor Adorno have observed, the Enlightenment, which corresponds to the emergence of capitalism in the sixteenth century, viewed nature as fungible, subject to the will to power of scientific and technical knowledge. The domination of nature is intrinsic to the reliance of capital accumulation on technical development.
3. Finally, the compulsion to accumulate is innate. Thus regulation of the production of greenhouse gases can never go so far as to actually mandate growth limits. The imperatives of growth are intrinsic to the system-logic of capitalism. Despite the dubious claim that information technology is free of pollutants, the economies of advanced industrial nations still rely, in large measure, on the intermediate technology industries such as autos, lumber, and paper and the carbon-based industries of steel and electricity, which devour huge quantities of oil and coal.

Capitalist industrialization evoked dreams of a technologically wrought cornucopia in which nature would no longer rule humans. Until the 1960s

many intellectuals and political and economic leaders in the major industrialized countries, both capitalist and state socialist, remained in the thrall of the technological sensorium that willfully ignored the ecological consequences of industrialization. In 1951, R. William Kapp made the obvious point that oil drilling, coal mining, nuclear energy, and other forms of industrial production left in their wake huge quantities of hazardous waste, the cleanup of which constituted a "social cost." When this was factored into the costs of production the actual price of commodities was much higher than their market value. If the government is charged with the cleanup and restoration of the waste by-products of the production process, these activities should be added to cost and are usually reflected in the tax bill, which is a deduction from profits and wages. To which must be added the social costs inherent in the ruined health of miners, chemical workers, and their families. Examples such as that of New York's Love Canal, a community near Niagara Falls, the site of large-scale chemical manufacturing until the late 1970s, illustrate the social costs of market-driven production. An appallingly high percentage of the local residents near Love Canal were afflicted with cancers that medical investigators determined were directly attributable to the water and air toxins spewed from the plants. Similar cancer and birth-defect epidemics afflicted people living at America's premier site of nuclear research and testing, New Mexico's Los Alamos installation and Yucca Flats, where the military detonated countless nuclear devices from the 1940s through the 1970s.²

Such calculations were ignored by industrial corporations and the United States government until, in reaction to mass protests initiated by environmentalists and subsequent legislative and juridical decisions, they were compelled to take some responsibility for cleaning up after themselves. But large corporations have enough political clout to evade some environmental regulations, or they have made deals by which they are awarded the privilege of self-regulation; as a result, many cleanups remain incomplete and in some cases thwarted. Many of these companies have refused, except under duress, to acknowledge their culpability and in an era of deregulation have benefited, to our collective harm, from slack enforcement and judgments by probusiness courts against holding them individually accountable.³ The accumulated consequences of corporate decisions have left the natural and social ecologies of our planet in a precarious state. From their earliest period to the present, corporations in such industries as coal and metal mining, oil, steel, and chemicals arrogantly refused to take responsibility for their role in the despoliation of nature. Until the late 1970s travelers in New Jersey, Penn-

sylvania, eastern Kentucky, and West Virginia could not fail to observe the visible evidence of this dereliction: huge, gouged-out sides of mountains, abandoned mines that left untended holes in the earth, heaps of slag, and, in Delaware and New Jersey, among other states, chemical waste. And, especially in western Pennsylvania and West Virginia the sun and the stars were regularly hidden by a thick layer of smog.

Secure in their power to resist meaningful reform, the power blocs of these societies continue to operate under a consensus that nuclear energy, genetically modified organisms, and other artifices of technology will eventually liberate us from the brutal effects of nature, including sudden seismic shifts that contribute to floods, droughts, and human and property destruction. They understand capital accumulation not only in terms of their own direct interest, but as a means to obviate material scarcity. Throughout history, the insufficiency of material goods has constituted a basis for class warfare that constantly threatened to disrupt social peace. The idea is that if scientifically wrought industrial production can abolish material scarcity, at least for the majority in the most industrially developed societies, even if the fruits are unequally distributed the economy will “raise all boats.”

Since the inception of industrial capitalism, for some the price of future abundance was too steep. Early opponents, far from conflating market capitalism with freedom and democracy, saw industrial capitalism as a form of tyranny. Triumphant capitalism witnessed the birth of the so-called romantic rebellion against an industrial order that systematically killed or maimed its young and condemned large portions of the adult population to premature aging. The industrial system produced a virtual army of “misfits” who were unable to work because they were victims of industrial accidents or labor-induced diseases. Whole segments of the population were reduced to penury. William Blake, Percy Bysshe Shelley, and Thomas Hood railed against the debilitating effects of capitalist industrialization, which stunted the growth of children, sent men and women prematurely to their graves, and, equally egregiously, burdened the physical environment with vast quantities of pollution and industrial waste that turned large sections of cities and towns into cauldrons of disease and despair.⁴

In the nineteenth century, such figures as the naturalist Henry David Thoreau, the sociologist Lester Frank Ward, and the economist Henry George were among the few who were acutely aware of the dangers of unbridled industrialization and raised their voices on behalf of conservation of wilderness areas. Following the lead of the German zoologist and philoso-

pher Ernst Haeckel, Ward insisted that humans and their civilizations “are attached [to the tree of evolution] by every organ and every function essential to the whole.”⁵ Calling for an appreciation of nature rather than adopting Bacon’s position of conquest, Ward defined civilization as the “achievement of management and direction of the phylogenetic forces of nature.”⁶ Whereas Thoreau defended the natural environment for its own sake, even going so far as to engage in ecological sabotage to defend fish and other wildlife, many of his fellow environmentalists, such as George, framed their concerns in terms of the need to preserve nature as a resource for eventual human use.⁷ Similarly, the group that formed the Society for the Prevention of Cruelty to Animals in the late nineteenth century and those who protested against child labor were not so much the conscience of capital as its rational side. The cry for protection of animals and children was directed at the system’s own interest; these reforming groups urged legislation to inhibit the excesses of the capitalist labor market, which ruthlessly swept up any available labor regardless of the human cost. For if animals were wantonly sacrificed to sport—or to science—and children were used up before they attained adulthood, industrialists would produce labor and animal shortages that would eventually inhibit their own capacity for survival. If industrial capitalism was to prosper, they argued, it would be required to exercise restraint lest it destroy itself and the system it had built.

Ward and other conservationists conceded that industrial and urban development, suburbanization, and technological innovations such as labor-destroying machine applications within production, as well as cars, trucks, and airplanes were nearly identical to what they considered progress. The conservationists were an elite group of influentials, not a popular grassroots movement, and concentrated their energies on protecting discrete bodies of land and water from development. The New York lawyer Harold Ickes, later Franklin Roosevelt’s secretary of the interior, was among some conservationists who rose to high governmental positions. In an era when the Democratic Party was tied to its urban and southern aristocratic agrarian base, whatever political support conservationism could muster originated in the Republican ranks. A progressive Republican in the tradition of Theodore Roosevelt, Ickes in the 1930s became the country’s official champion of national parks, pressing for protection of wilderness areas through nationalization of huge tracts of vacant or abandoned land. But as was FDR’s wont he did not hand over land policy entirely to a conservationist. He was acutely aware of the power of lumber and paper, oil, and gas interests and was not inclined to expose himself to their ire on this terrain even as he incurred their

wrath on labor policy. Consequently, Ickes had to combat, and was partially neutralized by, other administration appointees. The struggles over oil prompted him to threaten to resign, but Roosevelt always moved far enough in Ickes's environmentalist direction to keep him on. When, in 1946 Roosevelt's successor, Harry Truman, appointed Ed Pauley, an oilman who was eager to keep tidelands oil reserves outside federal jurisdiction, as secretary of the navy Ickes offered the president his resignation, which Truman accepted, much to the chagrin of liberals.⁸

Environmental conservation was a crusade to save the economic system from devouring itself. From this followed the art and science of natural and human "resource planning": federal and state governments were urged to set aside some of their vast holdings from development by industry and housing interests. When reelected president in 1904, Theodore Roosevelt created a federal conservation policy and used his bully pulpit to urge the states to emulate it. This policy was the environmentalist equivalent of market regulation. The unregulated market had other enemies. The labor movement joined middle-class social reformers in opposing unsafe factory and living conditions and child labor. Before national legislation became politically feasible these alliances won support from state legislatures in industrial states and cities like New York and Chicago, which enacted health and safety regulations in factories and imposed new housing standards aimed at eliminating slum dwellings or at least making them safer and more healthy by requiring, for example, fire extinguishers, flush toilets, and safe stairwells. On the belief that uncontrolled capitalism was ruining its most precious resource, living labor, advocates for children proposed raising the mandatory age for school leaving and for employment. Because the proponents of natural conservation and those who fought against abuse of animals were often part of ruling formations, they did not generally overlap with children's groups. Although a few people from wealthy precincts saw the folly of child labor, it was the turn-of-the-century labor movement, muckraking journalists, and a small contingent of progressive middle-class reformers like Jane Addams who waged the fight.

Nearly two centuries after Blake railed against England's "satanic mills," which, he believed, had ruined its "green and pleasant land" as well as destroyed human labor, Rachel Carson's best-selling books called attention to the threat to our waters posed by industrial waste and especially by the leading technology designed to raise the productivity of agricultural labor, chemical pesticides. In 1962 Murray Bookchin's less disseminated but more analytic *Our Synthetic Environment* argued that the new mode of industrial

production based on synthetic materials posed serious environmental and health hazards. Since World War II, which saw the invention of many new technologies that found their way into ordinary use, DDT and other industrial chemicals have become ubiquitous in everyday life. The use of these key substances informed the dream of those who sought to free capital from its dependence on nature for raw materials. To return now to prewar methods of production would entail a massive reorganization not only of our economy, but of our social world. We are simply so dependent, for example, on the hydrocarbon plastic that its ubiquity is all but invisible. Clothing, furniture, bottles, housewares, and appliances made exclusively or even mainly from cotton, wool, wood, glass, paper, and metals are now considered luxury items. The “raw” material employed in the mass production of these commodities is various forms of plastics, a hydrocarbon that, despite industry claims to the contrary, is not biodegradable and poses a toxic threat to the water table.⁹

The warnings of grave consequences are clear: we maintain energy policies that rely on nonrenewable and polluting fuels at our peril. We should be developing such virtually pollution-free energy technologies as wind, geothermal, and solar and seeking the reductions of greenhouse gas emissions to be derived from self-generating electrical engines in autos and other machines. Yet the alliance of governments and transnational energy companies has stayed the course. They were not impressed even by predictions that oil wells would soon run dry. In 1978, more than forty years after similar predictions by the critic Lewis Mumford, the environmental scientist Barry Commoner warned that, on the basis of significant annual increases in oil consumption, the supply of oil was near exhaustion and might last only fifty more years. But since the idea of planning is inimical to the neoliberal economic faith, energy corporations and government regulators have given only a passing nod to the development of alternatives. Although electrical engines for vehicles have passed the experimental stage and will be introduced commercially on a broad scale within the first decade of the twenty-first century, producing a viable electric car entails a relatively prolonged period of transition from service stations dispensing fuel and other oil products to sites where electrical engines may be replaced and recharged. In the absence of official and industry foresight, an omission that signifies that alternative energy sources are ideologically opposed by both, without powerful political pressure this technology will occupy a very small portion of the market in the near future.

A quarter century after President Jimmy Carter urged Congress to approve

a large-scale research effort to find viable alternatives, oil- and coal-dependent electricity remain our main sources of energy, and nuclear reactors, which produce large quantities of hazardous waste, still account for a third of America's electricity output. Public skepticism about the motives of the oil giants was deepened by a series of ruinous oil spills, the most prominent of which was that of the tanker *Exxon Valdez* off the Alaska coast in 1989. During the 1980s and 1990s environmentalist organizations managed to mobilize sufficient political force to thwart many, but not all, plans for ecologically dangerous nuclear, coal, and oil production within the United States, prompting transnational oil corporations to relentlessly move offshore to Latin America and the Middle East in their quest for new sources. In 2001, a few months before the attack of September 11 at the World Trade Center in New York, President Bush's treasury secretary, Paul O'Neill, declared nuclear power to be perfectly safe and called for a new phase of expansion of the industry. Needless to say, he did not anticipate the effect that terrorist action could have on communities that host the more than one hundred nuclear reactors in the United States, including Indian Point in Westchester County, about thirty miles from the trade center.¹⁰

Since the oil and gas crises of the 1970s, the United States has become even more dependent on imported oil than before, and its consumption has more than doubled in twenty-five years. In addition to the effects of the world glut of crude oil in the 1960s and early 1970s, which made investment in new domestic sources of oil unprofitable, environmentalists had managed to limit production of crude oil within U.S. borders. But beyond legislation that mandated the elimination of lead in most gasoline they have been unsuccessful on the consumption side. Big Oil has been able to thwart legislation and administrative rules that would raise mileage standards for automobiles and trucks. On the contrary, in the midst of accelerated global warming in the 1990s, all of the world's leading car manufacturers, especially America's Big Three auto companies, introduced new gas-guzzling sports utility vehicles (SUVs), most of which far exceed the modest fuel efficiency standards established by the Environmental Protection Administration (EPA). Moreover, in an era of severe budget cuts for regulatory agencies and an increasingly conservative judiciary, the auto industry has been able to ignore even these inadequate levels. As long as gas prices remain relatively low, American drivers seem perfectly willing to drive heavy, fuel-inefficient vehicles regardless of the safety and environmental hazards they pose.

Thus the potential universalism of ecological issues is undermined by the recalcitrance of a resurgent fraction of capital whose wealth and power have

succeeded, so far, in thwarting an aggressive public approach to ecological sanity. The profit imperative, it seems, overrules science as well as the new environmentalist common sense. For it was during the eight years of the Clinton administration that this fraction of southern- and southwestern-based energy corporations and the segment of the political directorate allied with them captured the preponderance of congressional seats and executive and legislative branches of state governments in the South, Southwest, and sizable sections of the industrial heartland, including Michigan, Ohio, Illinois, and Indiana. Having seized the White House in 2000, a new power bloc of ultra-right wing politicians and the fractions of capital associated with industrial and home energy production have insisted on ignoring or reversing environmental regulations: they have proposed modifications in the Clean Air and Water Act; and proposed rescinding prohibition of certain types of exploration like dredging oil from the sea and drilling for oil on the hundreds of thousands of protected wilderness and wildlife acres on the North Alaska coast. Under a new EPA, the Bush administration has relaxed pollution standards to permit coal corporations to expand mining activities and proposed reviving the dormant nuclear industry, which fell on bad times during the 1970s and early 1980s in the wake of the scare at Three Mile Island and the hugely destructive nuclear accident at Chernobyl in the Ukraine.

Sensing their vulnerability, the Bush administration has courted unions in the production and transportation sectors. The fraction of capital that envisions a new birth of American economic autarky has made systematic efforts to reach out to the powerful teamsters' and carpenters' unions to support its energy policy by, among other inducements, making extravagant predictions about the job-creating effects of these programs. For example, at a time when industries engaged in material production and distribution have declined steadily in good times as well as bad, the media have routinely quoted the administration-floated figure of 780,000 construction and maintenance jobs resulting from opening Alaska drilling. And the otherwise progressive United Mineworkers' union, whose members are concentrated in politically crucial swing states like Kentucky, Tennessee, and West Virginia, has thrown in with Bush's program for coal expansion to fuel new power plants.

Yet in the aftermath of the tragic event at the World Trade Center on September 11, 2001, the mostly hidden face of class politics flashed on the screen. One of the most significant features of the disaster was the transformation of the environment, not only at the site of the twin towers but potentially in the entire region. Many, if not most, of the approximately three

thousand people killed were unionized working people—restaurant workers, firefighters, police, and building service employees. The rubble produced by the crashes of two fully fueled commercial airliners left acres of toxic waste whose effects on the air are, at this writing, not fully known. Almost immediately after hundreds of firefighters and police perished in their efforts to save victims by entering the collapsing buildings, thousands of rescue workers filled the area in a mostly futile effort to save lives and then to recover comrades and friends who were buried in the tons of debris. Amid assurances from public officials that the area posed no health threats, they were exposed to dioxins and other toxic materials that later became the subject of investigations by scientists and public health officials. Like the postal workers in Washington and Trenton who, even as they were proclaimed heroes by politicians, the media, and the public, were exposed to anthrax but did not immediately receive treatment, firefighters and emergency health workers have taken the brunt of the risks. Just as union leaders who backed Bush's energy program chose, in past years, the ephemeral promise of jobs over the scourge of black lung and cancer, so the New York labor movement was slow to recognize the short- and long-term hazards to which their members were exposed by their heroism and the inequality of sacrifice it entailed.

Writing in the *Washington Post*, the columnist E. J. Dionne reminded his readers that, contrary to common belief, class was alive and well in America. The hierarchy of attention that placed Senate Majority Leader Tom Daschle's and other government officials' health above that of the people who handled the anthrax packages resulted in the deaths of two postal workers. And belatedly noting that airline companies were awarded \$15 billion by Congress while tens of thousands of unemployed workers awaited an extension of benefits beyond the twenty-six-week limitation under existing federal law, AFL-CIO president John Sweeney suggested class interest when he issued a statement demanding that working people (coded in the communitarian buzzword working families) receive equal treatment in relation to the consequences of the terrorist attacks. He also suggested that corporations be required to undertake an equal measure of sacrifice if workers would be asked for concessions to fight the terrorists.¹¹

URBAN ECOLOGY, SOCIAL ECOLOGY

In the founding of a distinctly American sociology the most influential contributor was Robert Park of the University of Chicago. Strongly influenced by environmental progressivism and by the ideas of the German sociologist

and social philosopher Georg Simmel, the Chicago School, of which Park was a leading figure, understood urbanism as one of the great features of industrialization and its characteristic mode of life in terms of the concept of urban ecology. Social relations were intertwined with the interaction of humans and their physical and social environments, *physical* being understood as a built environment, the main outcome of human interaction with nature. So questions of social personality, education, and culture could not be separated from living conditions, especially housing, neighborhood life, ethnicity, and the presence or absence of public amenities such as parks and other recreational facilities. The sociologist must study forms of social interaction in the context of the ecosystem within which they occur. The neighborhood is seen as more than a series of dwellings and functional commercial establishments; it is an organic cultural site in which people build communities that are modes of life. Park fostered several generations of investigators, including Ernest Burgess, Lewis Wirth, and, a generation later, William Kornblum, whose ethnography *Blue Collar Community* chronicled the urban ecologies of Chicago's southside steel communities; Park's imprint can also be seen in such works as *The American Soldier*, a multivolume study by Morris Janowitz, and, perhaps most famously, in the immensely influential landmark community studies *Middletown* and *Middletown in Transition* by Robert S. Lynd and Helen M. Lynd.

Perhaps the most farsighted study of the pre-World War II era was *Tech-nics and Civilization* (1934) by the writer and editor Lewis Mumford. The book, which made the connection between nature conservation and what Mumford called "social ecology," has been viewed by most readers as a critique of the twentieth-century view that machine technology is an unqualified boon to civilization.¹² But because the book appeared in the midst of labor upheaval and the Great Depression what was often missed was Mumford's unbridled attack on Bacon's call for the conquest of nature, his discussion of the relation between "carboniferous capitalism"—or what he calls the "paleotechnic phase in the development of civilization"—and "the destruction of the environment." "The first mark of paleotechnic industry was the pollution of the air," he writes. "Disregarding Benjamin Franklin's happy suggestion that coal smoke, being unburnt carbon, should be utilized a second time in the furnace, the new manufacturers erected steam engines and factory chimneys without any effort to conserve energy; nor did they at first utilize the by-products of coke-ovens or burn up the gases produced in the blast furnaces. In this paleotechnic world the realities were money, prices, capital shares; the environment, like all human existence, was treated

as an abstraction."¹³ More than fifteen years before Rachel Carson made the same observation but without the same analytic argument, Mumford carries the story of waste and pollution to the later emergence of the chemical industry: "If atmospheric sewage was the first mark of paleotechnic industry, stream pollution was the second. The dumping of industrial and chemical waste-products into the streams was a characteristic mark of the new order."¹⁴

Because "all human existence" was, like the physical environment, treated by capitalism as an abstraction, so was labor. Given that Kant's doctrine that "every human being should be treated as an end, not as a means was formulated precisely at the moment when mechanical industry had begun to treat the worker solely as a means, human beings were dealt with in the same spirit of brutality as the landscape."¹⁵ Mumford notes the first requirement of the factory system must be to "castrate skill," second, to discipline the labor force through starvation, and, third, to "close up alternative occupations" through "land-monopoly and diseducation."¹⁶ Just as science—relying on the authority of the nineteenth-century apologist for unbridled industrialization Andrew Ure, who proclaimed invention the key to securing labor "docility," and of Richard Arkwright, a capitalist entrepreneur whose most enduring "invention" was to promulgate in his factories a rigorous system of labor discipline—is recruited to subordinate the environment, so, Mumford claims, "technological improvement was the manufacturer's answer to labor insubordination."¹⁷

Mumford sees the degradation of the worker in the factory as part of a wider effect of capitalist industrialization, the "starvation of life," which has two principal elements: the adulteration of food and the "starvation of the senses" through physical and moral strictures against sexual pleasure, which affected the middle classes as well as the working classes. Thus for Mumford, the environment is not confined to its physical connotation but has a social content as well. Ten years before Horkheimer and Adorno were to argue in *The Dialectic of the Enlightenment* that the real process of abstraction that is an integral component of the commodity form and of the capitalist system of production and exchange leads to the domination of nature and of humans, Mumford draws the implications of its spread to all corners of the social world. From the perspective of capital the human has become simply another machine part.¹⁸ Yet Mumford insists that humans are not merely the victims of their social and physical environment. Following his mentor, the biologist and town planner Patrick Geddes, Mumford finds that humans are both "creature and creator" of both the ends of the social environment and

the means by which it is produced. And owing to their capacity to adapt to new conditions, they can negotiate the terms of their existence.

In the coming phase of civilization, “neotechnics,” Mumford envisions the reduction of technology and its principal creation, the machine, to human scale. Humans’ dependence on machine technologies to produce means of subsistence, to accumulate wealth, and to deal with disease and other bodily ailments will be loosened by the advance of the collective understanding of the physical universe and human physiology. Our advancing knowledge that human beings are part of nature and of natural history will help humanity achieve not conquest of, but “dynamic equilibrium” with the rest of nature. In turn, greater knowledge of the body may overcome our dependence on pharmaceuticals. And the social world, too, must become subject to ecological principles. For Mumford, the degradation of work and of the worker and the destruction of the environment is too high a price to pay for abundance. Sketching a program of urban ecology and of bioregionalism, Mumford suggests that the division of labor be radically restructured so that the separation of food production from manufacturing and single-industry and single-crop economies become extinct. In his proposal, regions themselves provide for many of the products they need. This concept has become the basis of a few experiments around the globe, notably Mondragón in Spain and the early kibbutz movement in Palestine.¹⁹

The concepts of urban ecology elaborated and extended by Mumford as social ecology spread beyond the academy to progressive policy makers. But progressives became caught up in what they considered an urgent need to rejuvenate the economic life of metropolitan regions, which had fallen into serious disrepair in the depression era. In the 1930s, conservation was advanced primarily as a jobs program: hundreds of thousands of unemployed youth were employed in a massive cleanup of America’s forests and rural areas as well as in national parks and wilderness programs. After the war, many planners proposed to articulate development with conservation in terms of the general concept of urban renewal. From Los Angeles to the great and small cities of the East Coast, city and state governments employed progressive planners and administrators to undertake large-scale projects of social engineering. In alliance with business interests in Boston and New Haven, the planner Edward Logue changed the urban landscape of New England. By the 1950s, similar efforts were under way in Chicago, Newark, and St. Louis, where, with the financial and legal support of the federal government, major new roadways, airports, and housing developments were constructed.

In New York City, Robert Moses, in his pursuit of urban renewal—origi-

nally conceived as a land policy to overcome poverty and economic and social backwardness—led the effort not only to modernize the city, by subordinating its environment to the economic imperative, but also to preserve some of its crowded space for such aesthetic pleasures as recreation. Ignoring Mumford's warning, Moses derived his concept of modernity from the traditional progressives' faith in scientific and technical methods to solve human problems like poverty, unemployment, and poor living conditions. In the depression-ridden city Moses proposed to combine job creation with improvement of the human environment. With Roosevelt and Mayor Fiorello LaGuardia's enthusiastic support, he implemented policies to replace slum dwellings with new high-rise public housing and to soften the mean streets with playgrounds, public swimming pools, parks, and recreational centers—a conservationist favorite. His economic strategy was to update New York's transportation systems to facilitate the movement of goods through the city's tangled traffic. Moses organized the massive development of roads, port, rail, and airports. During the 1930s and the immediate postwar period, federal funds were allocated to construct the East River Drive (later renamed for FDR) and the West Side Highway. In the late 1940s and 1950s, Moses presided over the construction of a network of roads that all but surrounded the city: the Cross Bronx Expressway, the Major Deegan Expressway, the Brooklyn-Queens Expressway linking Manhattan, Brooklyn, and Queens to the Long Island Expressway, and the Grand Central Parkway among others; the roads fostered the development of LaGuardia Airport.²⁰

Robert Caro's magisterial study *The Power Broker* registers Moses' contradictions in excruciating detail. It also reveals the limitations of a conservatism bereft of a critique of the idea of progress and of scientifically based technology. The book chronicles what happens when the fundamental discovery of urban ecology, that people create their own neighborhoods as places of sustenance, as ecologically sympathetic sites, is violated. For in the end, imprisoned by the logic of development (one that has gripped today's China, for example, with a vengeance), Moses became a veritable enemy of the people. In the pursuit of efficiency and economic viability for his beloved city and using the power of eminent domain by which for public purposes government may preempt property rights and compensate those displaced, Moses presided over the destruction of many of the city's most stable, culturally coherent neighborhoods. For example, construction of the Cross Bronx Expressway, which links New Jersey and Long Island, helped reduce several of the city's most closely knit neighborhoods to rubble. It bifurcated the Bronx on a north-south axis and destroyed tens of thousands of

dwellings that in previous decades had housed some of the most viable working-class enclaves. The Cross Bronx project became one of the emblems of the ruthless urban renewal that spread throughout the city in the postwar period and became the core of federal and local urban policy.

Moses' passing did not signal a reversal of public policy. On the contrary, his program, embedded in the city's several master plans from the late 1920s to the present day, became the blueprint for development. These plans foreshadowed the virtual elimination of working-class neighborhoods below Manhattan's 125th Street. In 1952, under sponsorship of Columbia University, the city administration began a determined effort to clear and rebuild the Morningside Heights area by removing thousands of working-class families from the shadow of the university and replacing them with high-rise middle-income housing. Only an equally determined struggle by the Metropolitan Council on Housing, the successor to the tenant leagues and Workers' Alliances of the first forty years of the century, and its local affiliate in the neighborhood, led to a compromise that resulted in the construction of several hundred units of public housing alongside the middle-income buildings. A similar battle on the Lincoln Center site in late 1950s ended in the destruction of this largely West Side longshore workers' area and its reconstruction as a cultural center and living space for portions of the upper crust as well as professionals. A decade later the struggle was resumed, on a grander scale, in the proposed West Side Urban Renewal program involving the clearance of thousands of units of rent-controlled working-class private rental housing by subsidized middle-income cooperatives and rental housing. Again a coalition of tenant groups won some concessions; the city agreed to build public housing, but the area was permanently transformed as thousands of working-class households were forced to leave.²¹

In 1968, David Rockefeller, the leader of the constellation of banks, insurance companies, and industrial and real estate corporations that constitute one of New York's and Wall Street's major forces, proposed a Lower Manhattan Expressway. It was to have run along Delancey Street and would have necessitated the razing of most of the working-class housing in the surrounding area. The proposed expressway, planned as a transportation link parallel to the Cross Bronx between Long Island, New Jersey, and points west, would have utterly destroyed the extant urban ecology by forcing the emigration of at least twenty thousand residents and countless small businesses. But the proposal was opposed by one of the great neighborhood-based political alliances in recent urban history. Working-class Puerto Ricans from the Lower East Side united with residents of the traditional working-class Italian South

Village neighborhood and artists and intellectuals in the West Village to defeat Rockefeller's plan. A decade later, the New York Public Interest Research Group led a successful struggle to oppose a plan hatched by the same business interests and supported by the city administration of Mayor Edward I. Koch, to construct a beltway around Manhattan to alleviate traffic congestion and create a network linking the entire Metropolitan New York area.²²

Underlying the contradictions of urban enlightenment was an implicit class politics. The bourgeois values of the planners and the corporate sponsors of renewal, their alienated conceptions of living space, exemplified in their proud sponsorship of high-rise public housing, were imposed on working-class urban ecosystems, many of which were populated by Jews and Italians, but also blacks and Puerto Ricans. Dr. Urban Development knew best how to administer its medicine to overcome urban "blight." Dismissed were the home remedies of neighborhood residents, remedies that might have preserved the essential character of the terrain by the building of low-rise cooperative housing and by rehabilitating and reconditioning existing housing stock rather than reducing it to rubble. In the Bronx, much of that stock was still structurally sound when Moses' bulldozers tore it down to make room for the Cross Bronx Expressway. In the name of better housing for the working poor and under the banner of creating jobs, jobs, jobs, a slogan near and dear to the hearts of the seasonal building trades, thousands of houses, often mislabeled slums, were demolished. Historical memory as well as the living neighborhoods, their streets, schools, stores, and childhood hiding places in old factories or icehouses, for example, were destroyed. In contrast, the first low-rise public housing buildings constructed in the 1930s on the Lower East Side and the union-sponsored cooperatives in the same neighborhood and in the northern Bronx were dedicated to providing rich cultural and recreational amenities. But subsequent projects in Chicago, St. Louis, and New York were built vertically and strung out over vast parcels of land, more or less isolated from the rest of the city. Fifty years later, decimated by crime, poverty, and municipal neglect, many of these projects were torn down, and those left standing became subject to screening procedures that required residents to work off their subsidized rents.

Ironically, it was not the programs of the seriously misguided progressive proponents of urban development that ultimately devastated the economically and socially diverse lower Manhattan communities, but rather the coalition of banks and real estate companies intent on capturing some of the most valuable tracts in the nation. For even though the city's master plan envisioned a radically gentrified Manhattan, housing organizations and other in-

stitutions of social activism—and the relative decline of the city's economy brought about by deindustrialization—had postponed implementation of this vision. New York's fiscal crisis of 1974–77, however, itself a consequence of industrial emigration and the accompanying white working-class flight, provided the political space for a business offensive in behalf of development. In Mayor Koch, a traditional liberal elected on a populist platform of supporting municipal unions, especially teachers, protecting tenants, and addressing the city's growing population of the working and unemployed poor, Wall Street found a welcome, if unexpected, ally. Following Koch's belated acknowledgment that, in the wake of deindustrialization, New York City's economy was tied hand and foot to the financial services industry, which was not only the largest private sector employer but the richest, Koch became a corporate-booster. The twelve years of his administration were marked by open subservience to business interests, a loyalty carried on by his successors. Koch abruptly shifted ground and became a determined champion of conversion of a portion of the city's 1½ million rent-regulated apartments to high-priced cooperatives and condominiums; a firm supporter of the conversion of industrial lofts sweetened by accompanying tax abatements for developers; and, in contrast to his immediate predecessors, who despite their harsh rhetoric presided over the phenomenal growth of public employees' unionism, a hard-line foe of further labor union advances.

For thorough gentrification to be imposed, the rent laws had to be changed to permit massive conversions so that the upper middle class could be brought back to the city. But even many lawyers, physicians, and other professionals found that by the time Koch left office in January 1990 rents and cooperative housing prices had become prohibitive in most of Manhattan and nearby Brooklyn. The three mayors who occupied City Hall in the late 1970s, 1980s, and 1990s—Koch, David Dinkins, and Rudolph Giuliani—sponsored measures to weaken rent control and denied rent regulation to commercial buildings, the effect of which was to drive hundreds of small manufacturers and wholesale firms from lower Manhattan lofts, thereby reducing the industrial workforce by tens of thousands. Commercial capital's hunger for new sources of investment and profits met with resistance from neither Democrat nor Republican, neither black nor white politicians. Implying the city's population to expel its least economically desirable fractions from the lower half of Manhattan became the guiding principle of city government. Even before the Welfare Reform Law of 1996, Giuliani had begun his own war on the poor: mass incarceration of black and Latino men and relentless enforcement of federal and state drug laws bulked the prisons;

a war on sin led to the cleanup of the Times Square area, which helped raise property values in midtown so that small merchants as well as the working class were all but banned from the area as businesspeople or residents. Like his predecessors, the mayor wholesaled tax abatements for conversions and “condemnations”—a prelude to urban renewal—for new luxury housing in Manhattan.

Closely synchronized with real estate interests, Giuliani was an equal opportunity warrior. His dedication to the upper crust was unwavering. He clamped down on low- and middle-income housing with equanimity. The most egregious ruling by his appointees to the city’s Rent Stabilization Board, made in 1999, classified as luxury all apartments with rents over two thousand dollars a month and thereby deregulated them. By the late 1980s Manhattan below 125th Street, except for Harlem, had become too expensive for middle-income people, let alone the poor, to rent or buy apartments. By the late 1990s most New Yorkers were priced out of housing in the majority of Brooklyn neighborhoods from Brooklyn Heights on the west to Park Slope on the east. Bank-backed developers and real estate corporations made deep incursions into Harlem, some traditional black middle-class neighborhoods like Brooklyn’s Clinton Hill and Fort Greene, and traditional working-class neighborhoods like Astoria, Queens. And the steamroller of gentrification had already spread to nearby Jersey City, a long-time working-class city of a quarter million residents that had likewise suffered deep losses of manufacturing jobs and commercial exodus in the last three decades of the twentieth century.

Boston, Chicago, Los Angeles, and San Francisco experienced the same sea change as New York in their social ecologies. Lacking rent regulations, some of these cities, notably San Francisco—whose Mission District had long been the principal Latino community of the city—witnessed large-scale evictions of residents from desirable neighborhoods to make way for the growing number of computer and financial services professionals and managers. In Chicago’s Hyde Park neighborhood, a traditional dwelling place of academics, rents and condo prices had risen so steeply that the University of Chicago found itself unable to recruit new faculty, and those that came anyway experienced difficulty finding affordable housing. Driven by the technological revolution, Boston, once a city of preponderantly working-class residential housing, was transformed into a bedroom community for the burgeoning computer software industries in Cambridge and on Route 128.

By 2000 a confluence of circumstances—capital flight that deprived mil-

lions in cities and towns of their livelihoods, gentrification in many large cities, the ceaseless migration from the farms, and immigration from and to postindustrial America—conspired to deprive urban Americans of a sense of place. Since affordable housing became elusive for many who grew up and worked in the city, a second exodus since World War II occurred, but not to suburbs because these, too, had become financially prohibitive. The new frontier was the rural exurbs far from the sites of employment. In California it was not uncommon for eight-dollar-an-hour Hewlett-Packard assembly plant workers to travel the same fifty or sixty miles one way that better-paid programmers did. Although the programmers were better able to afford the commute, both suffered from freeway madness. Their working time, including travel, exceeded their time for rest and recreation by a factor of two. And when the 2000–01 recession hit the computer hardware and software industries with heavy blows and corporations scrambled to solve their profit slump by mass layoffs, even willingness to make the fifty-mile commute wasn't enough to secure another job. Seeking work, many were forced to leave the rent-inflated region.

WHAT IS NATURE?

The debate about how to address the problems arising from increased human intervention in and altering of the ecosystems that sustain life—its condition of homeostasis—rests on differing conceptions of what nature is. On the one hand, the spearhead of the scientific Enlightenment, the Copernican revolution, repudiated the Aristotelean/Ptolemaic worldview according to which the Earth was the center of the universe and cast a radically new perspective that placed earth in a much-reduced position. On the other hand, Enlightenment philosophy, the hegemonic ideology of the bourgeois epoch, constructed nature, including all lower living beings, as other and at the same time declared the primacy of human thought and its presumed seat, mind, over nature. For Descartes, the seventeenth- and eighteenth-century English philosophers, and Kant, mind was ontologically separate from the material world and thus could not be equated with the brain; the human mind could reveal nature's secrets by means of its unique possession, reason. In turn, philosophical idealism tended to put mind at the center of the universe, relegating both natural history and the environment—the necessary condition for human life—to the status of servant, slave, worker. Just as in bourgeois civilization the elites take and the people pay, Nature yields its fruits, and those in power enjoy the power to harvest them at will.²³

But others challenged the notion that nature was extrinsic to either reason or social practice. Following Spinoza, historical materialism disputes the idea of nature as other, and Marx argued that “the first premise of all human history is the existence of living human individuals. Thus the first fact to be established is the physical organization of these individuals and their consequent relation to the rest of nature.” In short, in concert with the theory of evolution developed by Charles Lyell, Charles Darwin, and other nineteenth-century geologists and biologists, our species is simply the latest moment of natural history, and its characteristics are presupposed by previous physical, chemical, geological, and biological development.²⁴ The physical organization of humans—that we require shelter and clothing to protect us from the elements and that, except in tropical climates, we must produce our food—drives the imperative for production. Marx wrote, “The way in which men produce their means of subsistence depends first of all on the actual means of subsistence they find and have to reproduce.”²⁵ This is the natural context: conditions of climate, the availability of water, the geographic terrain. But production is an activity involving interactivity and, indeed, mutual determination between humans and their environment. Production is not merely reproductive of physical being but a “definite mode of life . . . as individuals express their life, so they are.”²⁶

Even in the earliest human communities the production of material life involved both the transformation of what is taken as external conditions and of humans as nature—the unalloyed other of physical and biological scientific and industrial practice—and the creation of a built environment suffused with the products of labor. Modes of reason, especially systematic theories of nature’s laws, are as constitutive as are the material conditions for production. While it may be argued that the so-called physical building blocks of the universe have remained constant throughout the evolution of life, the organization of the earth’s space, both physical and social, has constantly changed. From the advent of soil cultivation and animal husbandry, which has often entailed cross-breeding in the creation of new organisms, to industrial production, which alters the givens of the social world, human societies have utterly transformed not only the forms of earth and its physical and chemical components, but also themselves. Human evolution in the genetic sense may not have changed for millions of years. But the social and psychological predispositions of humans, our sense of time and space, our perception of the world, and our forms of intervention in it make us a different animal from our ancestors, sociobiological reductionism notwithstanding. We code the results of our observations of trees and grass, hills and

mountains—as opposed to the bricks and mortar of cities—as nature. But rural as much as urban space is incessantly transformed by labor: by landscape architecture as much as by farmwork and by the ways new roads, housing subdivisions, industrial parks, mines, and malls drive fauna as well as flora further back from development sites. As development accelerates, some species of life disappear or thin out.

Does development inevitably change nature's balance? For example, are floods caused by one of the results of the relentless commercialization of agriculture, soil erosion? Even the weather, which most of us on the everyday level believe is caused by purely natural forces, is conditioned by greenhouse gases that over time change the climate by elevating environmental temperatures. If unchecked, global warming will inevitably reduce or eliminate the prospects for growing food in certain regions and even make some residential areas unlivable. And acid rain, the result of the pollution largely produced by urbanization and industrialization, may render water undrinkable, reduce the quantity of fish in streams, rivers, and oceans, and make soil infertile. Even a particularly beautiful sunrise or sunset is often produced by chemical emissions emanating from human activity. In sum, what we take as nature always already incorporates social labor and social activity. The material forms of capital's expansion ingress and fuse with the other. Nature in itself has more than ever become nature by and for us.

There are important differences between the marxist focus on social labor as world-builder and the work of writers like Jean Baudrillard and Michel Foucault, who, while refusing a conception of nature as independent of language and power, reject the centrality of labor in the process of the construction of the natural environment. Foucault speaks as if the natural world is discursively constituted. When, in an interview, he was asked why he had no provision for the role of biology or of nature in his theory of power, Foucault replied that discourse has all but driven the biological level underground; it cannot be known on its own terms. We cannot consider it apart from the language of power. Consequently, the biological or the natural is overdetermined; they must be understood, in practical terms, as signifiers without a concrete referent. What unites marxism and those who follow the linguistic turn in historical and social theory is the conception that despite its status as "lived experience"—defined not as emotion but scientifically, what the eye can see—in science as well as everyday life nature is a reified external reality. Thus they agree that the legacy of history has been that nature has been incorporated into human dominion.

But can nature be understood entirely in terms of capitalization and other

forms of development that alter the environment? Do the ecosystems that preserve life set limits to growth? or is capitalism sustainable (where *sustainability* signifies that nature itself has unlimited resources to facilitate capital accumulation in the forms of industrial and commercial expansion)? Since the 1960s a chorus of voices has been raised against this eighteenth- and nineteenth-century taken-for-granted assumption of nature's fungibility. Each dissenting voice in its own way asserts that, despite the ineluctable imprint of social practice, nature exists autonomously. Put philosophically, all life-forms are as much modalities of natural history as nature has been subjected to the (flawed) practices that seek to consolidate human dominion over all forms of being. If ecological thought and environmental movements share a single underlying concept, it is the irreducible being of nature. But here the agreement ends. Ecology, the science and social practice of respecting nature's autonomy, divides by three key positions:

1. Liberal environmentalism presupposes that economic growth is necessary but must be regulated by government in order to protect the natural environment or by changing individual and collective behavior through curbs on the consumption of waste. The conservationist wing has fought to protect wilderness, forest, and other areas from development; the regulators are concerned that air and water be protected by limiting development and setting pollution and solid waste standards for private enterprise. Reformers have gone further to argue for the development of renewable energy resources and the gradual phasing out of nonrenewable energy, such as oil and coal. In recent years their advocacy of alternative energy sources has been pressed in the context of dangers posed by global warming. Liberal environmentalists have backed international agreements such as the Kyoto Treaty, which calls for policies to reduce greenhouse gas emissions, for example, by limiting development of rain forests and wilderness areas.
2. A broad spectrum of thought has framed the solution to the ecological crisis in terms of an extension of liberal political theory. Just as markets and states, especially in advanced industrial democracies, recognize that individuals have inalienable rights (except, of course, in times of war and other military and police emergencies, when these rights are often constricted, some say by necessity), so these rights should be extended to nature and to other life-forms on the utilitarian ground that social policy should seek the greatest good for the greatest number (the definition of *number* here including all life-forms). Some, like the ethical philosopher Peter Singer, would transform human food appetites so that, in consideration of animal rights, vegetarianism

becomes a norm. In any case, animal rights advocates argue that we dehumanize ourselves when we treat other life-forms as fungible and subject to arbitrary cruelty. They oppose the scientific vivisection of primates, rodents, and other animals for research purposes. Moreover, from a utilitarian perspective, Singer claims that protecting animals from witting and unwitting human cruelty is, on balance, in the human interest. And the most celebrated view within this perspective, so-called deep ecology, would emulate, on ethical grounds, Albert Schweitzer's reverence for all life-forms, including insects, trees, and shrubbery. In the interest of saving life itself, we must oppose any form of development, for example, the clear-cutting of trees, that potentially or actually threatens the planet. Here we encounter the slogan Earth First, signifying that earth is the source of life and humans only derivative of its beneficence. Hence by placing the protection of nature above immediate human interests we are insuring the survival of life itself.²⁷

3. The third position includes ecological marxism and ecoanarchism—or social ecology—and argues that the domination of nature is implicated in processes of human domination. Although they differ philosophically on whether the domination of nature gives rise to the domination of humans (Marx and Horkheimer and Adorno) or whether the domination of humans is at the origin of nature's domination (anthropological evidence purportedly shows the latter) (Bookchin), each concludes that the logic of domination—in its political-economic form, capital, and in patriarchal relations—is at the heart of the ecological crisis. In both instances the largely moral basis of liberal and deep ecological thinking is rejected in favor of a social-theoretical argument that relies on a critical historical assessment of the contradictory character of liberal political theory and practice.

Written in 1944 as a reflection on the relation between, on the one hand, the triumph of fascism in most of Western Europe and the spread of authoritarianism in most of the rest of the world and, on the other, the Enlightenment's worship of science and technology, Horkheimer and Adorno's *Dialectic of the Enlightenment* was perhaps the most compelling immanent critique of capital's sovereignty over nature and humans. The first text of what later became known as ecomarxism, its core argument is that in the interest of freeing humanity from the thrall of church-imposed ignorance of the laws of nature and of feudal tradition, which acted as a fetter on progress, the bourgeois Enlightenment substituted another fetter: it bridled nature in the service of the advance of technical mastery, a domination that became the model for human domination. The main tendency of social relations—in

the family as much as in the workplace and civil society—is to regard humans as fungible, subject to an administration that parallels that in which nature is regarded as subject to the will to power.

Having this common understanding of the symbiosis of patriarchy and the domination of nature, both tendencies acknowledge that the achieving of an ecological society is a question of political power, not of abstracted morality. Granting that capitalism bears principal responsibility for the crisis, Bookchin rejects the conventional marxist designation of the working class as the engine of change because of its excess historical baggage and alternatively proposes the concept of the people as the historical agent of change. Bookchin's ecoanarchism and ecomarxism—whose leading American proponents are the group around the journal *Capitalism, Nature, Socialism* and its editor, the economist James O'Connor—agree that addressing the current ecological crisis is perhaps the overriding contemporary task in the struggle for freedom. Their arguments are grounded not in survivalist ideology but in the proposition that what thwarts a solution to the ecological crisis is to be found in the economic, political, and cultural contradictions of the prevailing capitalist system.

O'Connor understands the ecological crisis by revising a fundamental precept of historical materialism: that social transformation is driven by the contradiction between the development of the forces of production—machine technologies and the skills of human labor but also scientific knowledge that has become the basis of technology—and the relations of production, that is, relations of ownership and control of the means of production. Relying on Marx's argument that a major premise of human history is that production presupposes natural conditions—climate, availability of water, and other natural resources—as much as labor, O'Connor declares a "second contradiction," the antagonism between capital's drive to accumulate by its conquest of nature and subordination of labor and the "reproduction of the conditions of production." Following William Kapp's observation, O'Connor argues that the reproduction of the conditions are a largely hidden—and ignored—cost for society as well as for the individual employer. For example, despite its deleterious ecological consequences, the industrial system remains joined at the hip to nonrenewable fossil fuels like oil, iron and aluminum ore, and coal. Capital's expansion entails not only the costs associated with the production and distribution of the commodity, but also the costs of reproducing the conditions of production. Replenishing trees, finding new energy sources as old ones are depleted, cleaning up sites to remove hazardous waste, sending boats further out at sea to harvest fish as waters

close to shore become polluted, and restoring soil-eroded agricultural land all constitute a limit on capital formation by driving up the costs of production and restricting profits. In a word, natural conditions are incorporated as a silent social cost in accounting as well as in public policy. Owing to the rising costs associated with reproducing production conditions, capital may reach a limit to its expansion.

The second contradiction is perhaps capitalism's new crisis. As it exhausts its own conditions of reproduction, it is driven to seek exemption from environmental restrictions by forcing the state to sanction the opening of previously restricted areas; it also spends billions of dollars for exploration and development, money that must be charged in the form of higher prices and diminished public funds for cleanup and restoration of devastated areas. Capital's expansion therefore affects the use values available for production.²⁸ The implication is not that capitalism is destined imminently to break down, any more than a traditional economic crisis leads to the end of the system. But the ecological imperative has substantial effects on the economic system and forces a new set of problems. For example, because forests are a major pollution absorbent, the illegal clearing of the Brazilian rain forest for agriculture and for the extraction of raw materials to be supplied to the housing, paper, and furniture industries has already reduced the prospect of reducing greenhouse gases on a global scale.

In the battle to contain global warming, we may observe the degree to which the logic of capital, in its quest for profit, especially its tendency to colonize all social and physical space, has become a threat to life itself. Whereas early capitalism successfully presented itself as a means by which humans could achieve freedom, its chief strategy, namely, the domination of nature, now threatens to recast natural and social space so that within decades only some regions of the world may remain viable for agriculture and even human habitation. Capital's logic—that is, accumulation is the condition of its existence—has, in the sixth century of its global dominion, turned into a danger to life as we have known it for ages. As Hegel remarked, the struggle between master and slave, lord and bondsperson is a fight to the death: the current struggle against the power of capital to construe the natural and the built environment in its shortsighted interest may be the true apotheosis of that ancient combat.